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A Program Evaluation Of A Secondary Co-Teaching Professional Development Program

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A PROGRAM EVALUATION OF A SECONDARY CO-TEACHING PROFESSIONAL DEVELOPMENT PROGRAM

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Dedication

I would like to dedicate this dissertation to a very special person in my life who always respected my capabilities and inspired me to push toward being the best version of myself I can be. My aunt, Evelyn Hazelwood, has played a pivotal role in my life since before I can remember. I will always be grateful to her for believing in me and supporting me to achieve my dreams. Evelyn, I am so proud and grateful that you are my aunt, friend, and confidant. Thank you for always being there, whenever I needed you. I hope my completion of this program makes you proud—you were a very real part of inspiring me to pursue this dream.

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Table of Contents

List of Tables

List of Figures

Abstract

Most students with disabilities in public schools are served in inclusive environments by teams of special and general education teachers working together to support their access to the curriculum and their disability related needs. This program evaluation sought to understand the knowledge, skills, and efficacy of a group of co-teachers following their participation in an in-service secondary co-teaching professional development program which focused on effective use of the station teaching, parallel teaching, and alternative teaching models to deliver specially designed instruction in co-taught classrooms. The program evaluation was based on Stufflebeam's CIPP model of program evaluation and used a mixed-methods approach to gain insights into the perceptions of the teachers who participated in the program, along with the experts who designed and delivered the program, on both the immediate intended outcomes and the stakeholders' perceptions of the program elements themselves and their need for future professional development. Findings from the program evaluation support that although teachers felt generally knowledgeable and grew in their intentionality and documentation practices, this knowledge did not always extend to classroom application. Additionally, the findings regarding the program elements reiterated the research surrounding effective professional development practices; specifically related to the importance of collaboration, modeling, and observation, feedback, and reflection cycles to support adult learners' professional growth. Relevant findings should support the District in growing and strengthening future iterations of the program. Findings supported changes in both local practices and had implications for greater policy changes in education as well.

A PROGRAM EVALUATION OF A SECONDARY CO-TEACHING PROFESSIONAL DEVELOPMENT PROGRAM

CHAPTER 1

INTRODUCTION

Background

Since the passing of the Education of All Handicapped Children Act of 1975 (EAHCA, 1975), all children with disabilities in the United States of America have had the right to access a free appropriate public education. The passage of this law was promoted by both the disability rights movement and the civil rights movements of the 1960s and 1970s (McLaughlin, 2010). Several of the laws passed during this time period by the federal government, including PL 94-142, Section 504 of the Rehabilitation Act (1973), and the Americans with Disabilities Act, work toward common goals of providing individualized, integrated, and inclusive quality education opportunities for children with disabilities, access to full participation in public educational programs, and the promotion of economic stability and independence for individuals with disabilities (McLaughlin, 2010; Silverstein, 2000).

The imperative for quality educational programming for students with disabilities was reiterated with the passage of the Individuals with Disabilities Education Act (IDEA) of 2004. The IDEA mandates that public education agencies provide students with disabilities an education within the least restrictive environment (LRE). This means that students with disabilities should be included with their typically developing peers to the greatest extent possible. In addition to laws mandating the education and inclusion of students with disabilities, laws such as the 2001 No Child Left Behind Act and the subsequent Every Student Succeeds Act passed in 2015 provide additional considerations for the education and evaluation of students

with disabilities (McLaughlin, 2010). Local education agencies are tasked with providing education for students with disabilities through a continuum of services, with the impetus of promoting inclusive educational opportunities to the greatest extent possible (McLaughlin, 2010; Scruggs & Mastropieri, 2017).

Co-Teaching and Specially Designed Instruction

One of the most popular methods of inclusion for students with disabilities is co-teaching classrooms taught by both general education and special education teachers and which are intended to meet the needs of diverse learners through structured differentiation and the integration of specially designed instruction ([SDI]; Magiera & Zigmond, 2005; Solis et al., 2012). There are six prominent models of co-teaching that are generally accepted as methods which should be used interchangeably to meet the needs of students in inclusive classrooms. The six generally accepted models of co-teaching are station teaching, parallel teaching, alternative teaching, team teaching, one-teach one-observe, and one-teach one-assist (DiPaola & Wagner, 2018; Fattig & Taylor, 2008; Friend, 2019; Friend et al., 2010; Perez, 2012).

Although co-teaching is a common method of service delivery for students with disabilities, evidence of its effectiveness is mixed. Inclusion of students with disabilities in educational opportunities alongside their typically developing peers is considered a core element of equality of educational opportunity (McLaughlin, 2010); there is evidence that students with disabilities who are educated in inclusive environments may have more positive social, academic, and behavioral outcomes than students who are educated in segregated environments (Banerji & Dailey, 1995; Fontana, 2005; Magiera & Zigmond, 2005; Vizenor & Matuska, 2018). However, there is a lack of empirical evidence that directly links the co-teaching service delivery

model to academic progress for students with disabilities (Magiera & Zigmond; 2005; Murawski & Swanson, 2001).

Scruggs et al. (2007) conducted a meta-analysis of 32 qualitative research studies. This meta-analysis concluded that while teachers were generally positive about co-teaching as it pertained to their professional growth and the amount of individualized attention they were able to provide to their students, there were a number of factors which prevented co-teaching success, including concerns for administrative support, the co-teaching pairs' compatibility, and adequate planning time. Hattie and Yates (2014) concluded that inclusion and mainstreaming of students with disabilities has an effect size of only .27, indicating a less than average impact on student achievement, while co- or team-teaching presented an even lower effect size of only .19.

Conversely, Sweigert and Landrum (2015) found that co-teaching had a positive impact on classrooms by providing students greater opportunities to respond, higher rates of positive reinforcement, and—in the elementary setting—promoting greater student engagement. However, consistent with previous research, this study also reiterated that special education teachers tended to take a subordinate role in co-taught classrooms, with teachers relying heavily on the one-teach, one-assist co-teaching model and that increased student engagement was not seen in co-taught classrooms at the secondary level. Hang and Rabren (2009) found co-teaching to have a positive impact on students' behavior, attendance, and academic performance when looking at data from a year in which students were co-taught in comparison to the previous year in which the students were not co-taught, however this study was limited by its lack of control group.

In addition to access to lower student to teacher ratios and differentiated models for the delivery of core instruction, a purported benefit of serving students in co-taught classrooms is the

capability of teachers to deliver SDI to meet the educational requirements outlined in students' individualized education programming (Friend et al., 2010). SDI is the intentional planning and delivery of instruction that covers content and skills outside of the grade level or subject specific curriculum to address the student's needs as related to their disability (Rodgers & Weiss, 2019).

Friend (2019) outlined 11 areas of SDI for students with disabilities including, but not limited to, academic, behavioral, emotional, social, organization, and functional skills. However, despite the potential for providing these intensive instructional supports and approaches, research suggests that SDI is not often seen in co-taught classrooms (Rodgers & Weiss, 2019). The lack of SDI and unique contribution to the instructional setting by special education teachers in co-taught classrooms limits the effectiveness of co-teaching as a service delivery model to increase outcomes for students with disabilities (Friend, 2019; Friend et al., 2010; Kloo & Zigmond, 2008; Rodgers & Weiss, 2019).

The Imperative for In-Service Professional Learning Opportunities for Co-Teachers

The concerns about the effectiveness of co-teaching and its impact on student achievement, along with the lack of SDI provided in co-taught classrooms, are compounded by the lack of preparation that general education and special education teachers receive in their preservice education to engage in collaborative instruction that maximizes the impact of both the general education and special education teachers in the classroom (Panksofar & Petroff, 2013). Additionally, a high percentage of special education teachers in the workforce are provisionally licensed and have inadequate preservice training and preparation which decreases their effectiveness in the co-taught classroom (Chitiyo & Brinda, 2018).

Teachers' confidence in their professional capabilities is a core element for effective collaboration and instruction for students. A lack of previous experience and training in co-

teaching and SDI has a negative impact on teachers' efficacy in supporting students with disabilities and other struggling learners (Friend, 2019, Pancsofar & Petroff, 2013). Efficacy refers to teachers' belief in their own skills and capabilities to effect positive change and learning outcomes for their students, even those students who are the least motivated and most difficult to teach (Tschannen-Moran & Woolfolk Hoy, 2001). This current definition of efficacy stems from the foundational work of Bandura's (1993) social cognitive theory and Rotter's (1990) work on internal and external locus of control. Together, these two theories provide the groundwork to explain how teachers' attitudes and perceptions of their capabilities and their belief regarding the potential impact of their efforts significantly impact their current actions and their expectations of future outcomes.

Given that so many teachers are under-prepared to engage in effective co-teaching relationships, and this under-preparedness could lead to a decrease in teacher efficacy which results in decreased student achievement, school districts are charged with providing teachers with in-service professional learning opportunities to build their capacity and confidence to become expert teachers (Hattie, 2012). Although research is mixed on teachers' perceptions of the usefulness of in-service professional development, Pancsofar and Petroff (2013) found that in-service professional development in co-teaching had a significantly positive effect on teachers' professional competence in co-teaching, particularly when the participants in the professional development were currently engaged in co-teaching as part of their defined job responsibilities.

Elements of Effective Professional Development Programming

School districts must provide effective and relevant professional learning opportunities which promote positive student outcomes for their teachers and staff (Donohoo et al., 2018;

Mangiante, 2011). Effective professional development is ongoing, content-specific, and relationship oriented. Professional development that fosters collaborative learning and collective responsibility of teachers is tied to increased student success (Chong & Kong, 2012; Pancsofar & Petroff, 2013).

In order to improve teachers' professional capacity, professional development opportunities have to be constructed in a way which focuses on specific content, provides opportunities for active learning, supports collaboration, models effective practices, provides coaching and expert support along with opportunities for reflection and feedback, and is delivered in a sustained and durable fashion (Bates & Morgan, 2018; Darling-Hammond et al., 2017). These elements should be considered as a part of evaluating the effectiveness of any professional development program.

Program Description

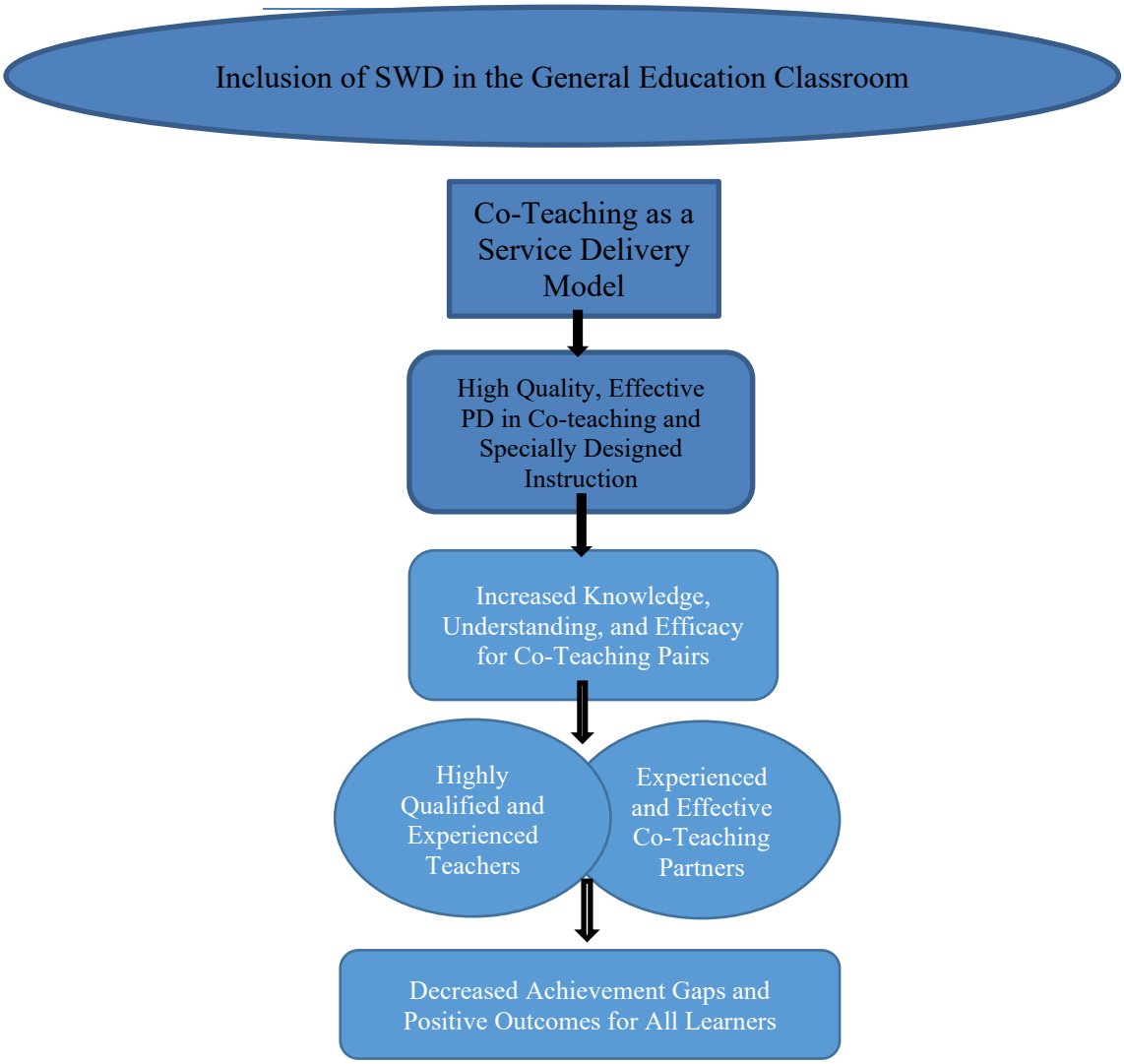
I conducted a formative program evaluation of the first year of implementation of the Secondary Co-Teaching Professional Development Program (CTPDP) in October County Public Schools (OCPS), a pseudonym for the actual district and county which asked to remain anonymous. District leaders in OCPS have long identified the closing of achievement gaps between typically developing students and students with disabilities as measured by state and local standardized assessments as a core focus for improvement. School-based comprehensive school improvement teams collaborate annually to identify training focuses and resources to serve the students within their buildings. In addition, OCPS' exceptional education department has provided multiple professional learning opportunities, along with job-embedded coaching and mentoring for struggling special education teachers. However, until the implementation of this CTPDP, there has never been a long-term, systematic approach to provide extended

professional learning opportunities for collaborative teaching pairs specifically dedicated to the improvement of co-teaching practices and the delivery of SDI for students with disabilities served in the co-taught classroom.

The legal imperative is to include students with disabilities in the LRE to the greatest extent possible with the extensive use of co-teaching as the service delivery model to attain that inclusivity. Professional development opportunities must be created which improve teachers' preparation and build their efficacy, knowledge, and skills to meet the needs of diverse learners. Figure 1 describes the conceptual framework which grounds the professional development program.

Figure 1

Conceptual Framework Defining the Rationale for Program Development



Note. SWD = students with disabilities

Context

OCPS is a large school district with 72 different schools and programs. OCPS serves more than 50,000 students and represents both geographic and socio-economic diversity. Schools in OCPS are located in rural, suburban, and near-urban environments, and 47% of the students are eligible for free and reduced-price lunch due to their socio-economic status. There are 21

secondary schools throughout the district. According to the district's December 1, 2019, special education child count, there were 6,859 students with disabilities who receive special education services across the school district, with 64% of those students receiving services in the general education setting through collaborative instruction more than 80% of their day (Virginia Department of Education, 2019).

Even though co-teaching is the most prevalent form of service delivery in the school district, both general education and special education teachers have reported that they feel inadequately prepared by their educational programs to implement effective collaborative teaching strategies in their classrooms (OCPS Human Resource Specialist, personal communication, May 5, 2019). Conversations with OCPS school-based administrators and instructional leaders regarding their observations of co-taught classrooms have indicated that teachers demonstrate over-reliance on the one-teach, one-assist model of collaborative instruction (OCPS High School Director, personal communication, May 5, 2019). Meanwhile, the scores of students with disabilities continue to demonstrate significant achievement gaps in comparison to their typically developing peers on both standardized assessments and classroom evaluations (Virginia Department of Education, 2019).

Description of the Program

The CTPDP was developed as part of the district initiative to improve inclusive programming for students with disabilities. The first year of implementation of the program occurred during the 2019-2020 school year. The intention of the program was to provide participants with the opportunity to construct learning collaboratively and to engage in activities led by content and special education experts to grow their understanding and application of effective co-teaching practices and SDI.

The implementation of the professional development program was designed upon the theoretical underpinnings of Bandura's (1977) social learning theory and Wenger's (2000) social learning theory. According to Bandura, learning occurs through a combination of direct experience and the observation of others' behaviors. Wenger takes the concept of social learning and expands upon those ideas to the application of communities of practice in which stakeholders work and learn together through both direct activity and reflection to move toward common goals. The work of Bandura and Wenger is validated in subsequent research on effective professional development for adult learners. Bates and Morgan (2018) identified seven key components of effective professional development. Key among those components are alignment of context, active learning opportunities, modeling of effective practice, and opportunities for collaboration. All these elements directly support the theory of social learning developed by Bandura (1993) and Wenger.

The educational professionals who designed and delivered the professional development programming sought to provide participants with learning experiences which incorporated the key elements of effective professional development grounded in the theoretical constructs designed by Bandura (1977, 1993) and Wenger (2000). Each of the professional development sessions was designed to provide the participants with structured opportunities for reflection in which they were to evaluate how the learning aligned to their current professional contexts. The program designers sought to develop each session in a way which modeled specific co-teaching structures and demonstrated their appropriate use and potential to the participants in a way that could be applied directly in the participants' classrooms. Specific focus was given on how the participants could use the different co-teaching structures to implement SDI processes, which would allow for individualized or small group instruction toward students' Individualized

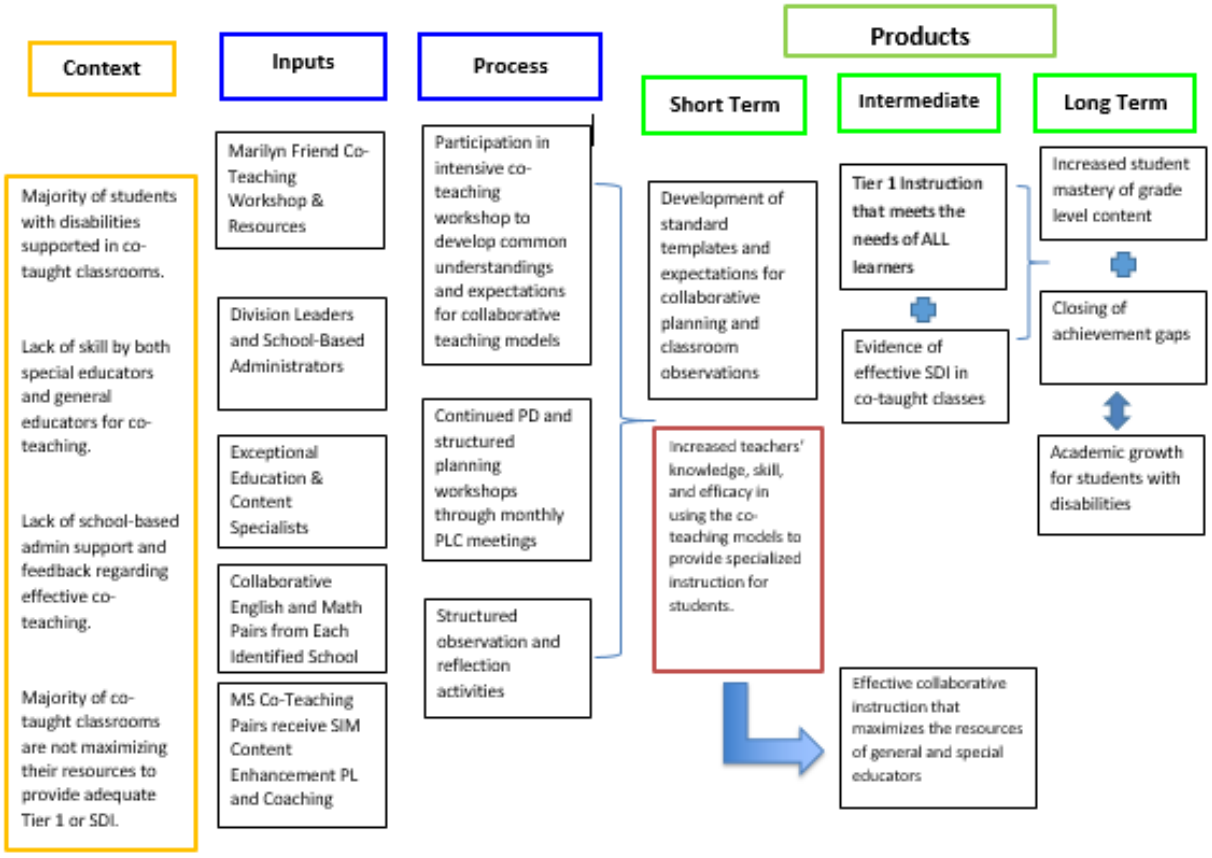
Education Program (IEP) goals or individual needs within the context of a larger classroom setting. The program developers sought to demonstrate this process through using the station-teaching and alternative teaching models to provide individualized instruction for groups of participants based on specific data.

Along with facilitator guided learning opportunities, the participants spent much of the time in the sessions collaborating with their co-teaching partners and other teachers of the same content areas from the different buildings. These collaborative sessions were designed to provide the participants with opportunities to observe and learn from one another, and to adopt appropriate and effective strategies for instruction into their own classrooms. Details of the professional development programming and structures can be found in the *Process* section later in this chapter, and are subsequently outlined in Appendix A.

Figure 2 shows the components of the program as they are aligned with Stufflebeam's (1983) CIPP model for evaluation. This model identifies the program's context, inputs, processes, and products. The sections that follow provide an overview of the Context, Inputs, Processes and Products of the program to be evaluated.

Figure 2

Program Evaluation Logic Model



Note: SDI = Specially Designed Instruction, SIM = Strategic Instruction Model, PL = Professional Learning, PD = Professional Development

Context. The program was developed to support secondary general and special education teachers in OCPS who are responsible for instruction in a co-taught setting. In OCPS, most students with disabilities are served in the collaborative classroom for core content instruction. Feedback from school-based administrators, district leaders, and teachers has indicated that teachers would like more professional development and guidance to build their skills to support students with disabilities and struggling learners in their classrooms. Classroom observations

have indicated that co-teaching pairs are most confident in using the one-teach one-assist model of co-teaching, and these approaches do not maximize the student to teacher ratio in the classrooms or provide students with disabilities the opportunity to receive SDI in their core content classes.

School based administrators gave feedback that they do not feel prepared to act as the instructional leaders for co-teaching and SDI in their buildings and have asked for additional training and resources related to co-teaching and SDI for both themselves and their teachers. School based administrators have been vocal about the need to build teachers' collective responsibility for the achievement of students with disabilities and struggling learners, and they have asked for professional learning opportunities for both general education and special education teachers to promote this goal.

Inputs. The program was initiated by the OCPS director of special education in collaboration with the director of high schools following a series of learning walks in co-taught classrooms throughout the school district. OCPS leaders enlisted the support of leaders in the special education department and the English and math content specialists, along with district instructional coaches to act as content and co-teaching experts delivering the professional development. Renowned co-teaching expert Dr. Marilyn Friend was contracted to provide initial training for program participants along with other teachers in OCPS, and her book *Co-teach! Building and Sustaining Effective Classroom Partnerships in Inclusive Schools* (Friend, 2019) provides the foundational content for the program.

Each of the participating schools' principal and special education administrator and/or department chair participated in the planning stages of the professional development program. These leaders selected two English and two math co-teaching pairs from each of their schools to

participate in the professional development. The special education administrators participated in the program alongside the co-teaching pairs to the extent that their schedules would allow.

The content specialists and the special education leaders collaborated to develop the professional learning content and activities for each of four monthly professional development meetings. These leaders worked together to develop common definitions and understandings of the co-teaching models, SDI, and student engagement. The professional development leaders also developed specific look-fors and observation checklists to be used to observe and provide feedback to participants in the program.

Process. Program participants met for four hours each month from September 2019 until December 2019 to engage professional learning activities. Professional development meetings provided participants with opportunities to reflect upon their professional practice and to plan and organize upcoming instruction and activities for their classrooms based on their learning.

The educational professionals who developed and led each session focused building learning opportunities grounded in the theoretical frameworks of Bandura (1977, 1997) and Wenger (2000) while incorporating key elements of effective professional development for adult learners (Bates & Morgan, 2018). The leaders sought to clearly identify the learning outcomes for each session, and to engage the participants in activities which promoted collaboration and connectivity. Each face-to-face session began with a time for the participants to reflect upon their current practices and to connect their professional experiences with the focus of the content for the day. The subsequent content was delivered in a way which sought to model the different approaches for co-teaching and their appropriate uses within the context of instructional delivery in the co-taught classroom, along with embedding opportunities to increase participants' understanding of how SDI for students with disabilities should be a part of co-teaching.

The program developers spent much of their energy on supporting the participants' understanding of when and why a particular model of co-teaching should be used. Specific emphasis was placed on those models of co-teaching which provide for a reduced student to teacher ratio, the increased ability to provide individualized and data-based instruction, and which maximize the impact of multiple educational professionals in one classroom environment. The program developers modeled the appropriate use and impact of station teaching, parallel teaching, and alternative teaching in each of the CTPDP sessions and focused on supporting the participants' understanding of when and how those models should be used in their classrooms.

The specialists sought to demonstrate to the teachers the ways that the different co-teaching models can be used to provide specialized instruction to meet students' needs as outlined in their IEPs or as determined by classroom data. While the program did not provide the opportunity for the teachers to learn specific SDI programs or strategies, such as multi-sensory reading instruction or applied behavior analysis strategies, the emphasis was placed on modeling and discussing how the models should be used to provide direct instruction that fell outside of the general content but was required due to the students' disability or underlying needs.

In addition to the structured professional development meetings, the specialists conducted observation and feedback cycles with each of the co-teaching pairs throughout the timeframe of September through March to gather data about the use of the different co-teaching models and SDI, and to provide targeted, non-evaluative feedback to participants. The program is designed to provide the participants with an in-depth opportunity to learn about co-teaching and SDI across a sustained duration of time, with the belief that the duration and continuation of the face-to-face learning through contact and collaboration with the subject experts through the observation-feedback cycles would promote the application of the learning objectives. Detailed

agendas with content and instructional methodologies for each of the face-to-face professional development sessions can be found in Appendix A.

Product. The products of the program can be divided into short-term, intermediate, and long-term outcomes.

***Short-Term Outcomes*.** Research have repeatedly shown that teacher quality matters (Althauser, 2015; Guskey, 1982; Hattie, 2012; Mangiante, 2011). Local education agencies are responsible for hiring high quality teachers and ensuring that those teachers have the professional learning opportunities necessary for them to build efficacy and expertise in the pedagogical skills they need to support the students they serve (Althauser, 2015; Dononhoo et al., 2018; Guskey, 1982). Teachers who have a common understanding of instructional practice and aligned professional goals are more likely to produce higher outcomes for students than those who do not (Donohoo et al., 2018).

Initially, the participation in the professional development program should provide the participants with a common understanding of the expectations of best practices in a collaborative setting. General education and special education partners should build their awareness of their own strengths and grow in self-efficacy regarding their specific contributions to the co-taught classroom. The partners should have common expectations and processes for co-planning, and their ability and desire to use the different models of co-teaching within their instructional practice should increase. The partners should perceive that they have increased their understanding of SDI, and how it can be implemented within the co-taught classroom to address the specific needs of students with disabilities. Observations of co-taught classrooms should show the teaching pairs engaged in effective collaborative instruction that maximizes the effect of both teachers within the classroom.

Intermediate Outcomes. As a result of the increased understanding of the different applications of the co-teaching models and SDI, observations will show increased use of targeted SDI in the classrooms. In addition to SDI, the program participants will gain skills in using the resources and structures available in the co-taught classroom to maximize the delivery of tier-one content instruction. In particular, participants in the professional development program should become more knowledgeable and efficacious with using station teaching, parallel teaching, and alternative teaching, as these methods of co-teaching have been proven to be more impactful to students' academic progress because of the special education teachers' increased ability to provide effective SDI (Friend, 2019; Friend et al., 2010).

Long-Term Outcomes. Ultimately, participation in the program will provide general and special education teachers the understanding, knowledge, and skills required to provide instruction that will lead to increased learning and mastery of grade level content for students with disabilities, along with the ability to close achievement gaps between students with disabilities and their typically developing peers through the application of targeted SDI to meet students' individual needs and promote their academic growth.

Overview of the Evaluation Approach

This program evaluation of short-term outcomes investigated teachers' perceptions of their efficacy, skills, and knowledge related to co-teaching and supporting inclusive secondary educational programs following targeted professional development. I sought to determine the activities and outputs that were especially supportive of teachers' professional growth. Since this program is in its first year of existence, a pragmatic evaluation approach using the CIPP model provides an appropriate framework to gather feedback from participants and stakeholders to inform the program developers and the district leaders on the participants' perspectives of

program's processes and to provide data to support ways to strengthen the program in the future (Mertens & Wilson, 2012).

This program evaluation used the CIPP model developed by Stufflebeam (1983) due to its flexibility and application to the educational setting (Mertens & Wilson, 2012). The CIPP model provides the evaluator with an approach to pragmatic evaluation that has proven effective as a way to build programming that is reflective of the needs of the program's intended stakeholders. In addition, the CIPP model provides the evaluator with the context to examine both the processes of the program and to examine outcomes in a temporal fashion (Mertens & Wilson, 2012).

Purpose of the Evaluation

This program evaluation investigated teachers' perceptions of their efficacy, skills, and knowledge related to co-teaching and supporting inclusive secondary educational programs following targeted professional development. I sought to determine the activities and outputs that are especially supportive of teachers' professional growth and achieve the program's short-term and intermediate outcomes. Since this program was in its first year of existence, a pragmatic evaluation approach using the CIPP model provides an appropriate framework to gather feedback from participants and stakeholders to inform the program developers and OCPS leaders on the participants' perspectives of the program's processes and to provide data to support ways to strengthen the program in the future (Mertens & Wilson, 2012).

The professional learning opportunities provided by the program were designed to lead to changes in teachers' knowledge, understanding, and efficacy specifically related to applying the different models of co-teaching in their classrooms to provide increased opportunities for SDI and intensive, individualized instruction which would improve the outcomes for their students.

Whether these outcomes are achieved must be investigated in order to move forward with the program in a way that is meaningful to promote positive outcomes for teachers and students.

I gathered information to strengthen the activities and outputs of professional development driven to increase the knowledge, skills, and efficacy of teachers in supporting students in the co-taught environment. Specifically, I looked at the teachers' perceptions of their knowledge, skills, and efficacy after the initial iteration of the professional development program. I examined whether teachers and specialists believed there were changes in the types of co-teaching used in the teachers' classrooms following the professional development, as well as gathering information related to the participants' current and future needs for professional learning and their input for future iterations of the program. Results of this evaluation will be used as a feedback loop to inform OCPS leaders as to whether this type of professional development is a cost-effective means of increasing teachers' professional capacity and if the program should be expanded to encompass more co-teaching pairs and schools across OCPS.

Focus of the Evaluation

Districts must evaluate programs to determine their effectiveness and to consider expansions and alterations to the program to maximize its successes and impact (Degracie et al., 1994). This product evaluation focused on the short-term and intermediate outcomes of the program of the program's pilot year. Specifically, I examined teachers' efficacy, skills, and knowledge following the professional development as it related to their practices in co-teaching and SDI, the perceptions of changes to classroom practices based on the professional development, and the participants' and specialists' input and feedback for future professional learning opportunities. The data obtained through the program evaluation will help inform stakeholders on the future development of the program and its implementation.

Evaluation Questions

Four evaluation questions guided the investigation of participants' perceptions of their efficacy, skills, and knowledge related to co-teaching and SDI following the CTPDP and the subsequent changes in the teachers' classroom practices related to co-teaching and SDI. I investigated which elements of the CTPDP were most beneficial to the participants and I sought to analyze the participants' continued needs and gather input from key stakeholders regarding their suggestions for the future application of the program and additional training needs that the participants may still have. The following questions guided data collection to determine the effectiveness of the program as a means of in-service professional development:

1. After participating in a professional development program designed for co-teaching effectiveness, what are teachers' perceptions of their efficacy to implement the co-teaching models, specifically the station teaching, parallel teaching, and alternative teaching models?
2. After participating in the professional development program, how do teachers perceive their co-teaching classroom practices changed in delivering specialized instruction? What changes in teachers' classroom practice were perceived by the specialists who provided the training?
3. Which elements of a professional development program designed for co-teaching effectiveness do the teachers and specialists find to be most beneficial, and which least beneficial?
4. What suggestions do the teachers and specialists have for improving a professional development program designed for co-teaching effectiveness?

Definitions of Terms

- *Co-Teaching:* A service delivery model in which special education teachers and general education teachers share the responsibility to meet the needs of a classroom of diverse learners, including students with disabilities (Friend, 2019).
- *Co-Teaching Models:* There are six predominately accepted models of co-teaching (Carty & Farrell, 2018; Casserly & Padden, 2018; DiPaola & Wagner, 2018; Friend, 2019; Friend et al., 2010; Scruggs et al., 2007) which have been outlined in the research and adopted by OCPS. These models include:
    - Alternative Teaching: A method of co-teaching in which a one teacher provides either remedial or accelerated instruction to a small group of students while the rest of the students engage in whole group instruction on similar content.
    - Parallel Teaching: A method of co-teaching in which both teachers provide small group instruction on the same components of the content or skill being taught using different methodologies. Students are split into groups based on their learning styles and instructional needs.
    - One-Teach, One-Assist: A method of co-teaching in which one teacher provides instruction to the whole class and the other teacher provides direct support to individual students as needed or as prescribed by the lesson.
    - One-Teach, One-Observe: A method of co-teaching in which one teacher provides instruction and the other teacher gathers data on a specific student or occurrence within the classroom.
    - Station Teaching: A method of co-teaching in which both teachers provide small group instruction on different components of the content or skill being taught, and

students rotate through stations, seeing each teacher and engaging in independent learning.

    - Team-Teaching: A method of co-teaching in which both teachers simultaneously deliver instruction to the whole group of students in the classroom.

- *Efficacy:* Perceptions of one's ability to make an impact in a given setting or situation. For the purposes of this study, efficacy will be used to describe the teachers' perceptions of the program and its methodologies to support their knowledge and skills in implementation of co-teaching and SDI in their classrooms.
- *Individualized Education Program (IEP):* A written plan for each student with a disability that is developed, reviewed, and revised by a team of stakeholders on at least an annual basis. The IEP includes a statement of the student's present level of performance, individual educational goals, accommodations, and special education services (IDEA, 2004).
- *Least Restrictive Environment (LRE):* Provision outlined in the IDEA (2004) that mandates that to the greatest extent appropriate, children with disabilities are educated in the same setting with children who are not disabled.
- *Professional Development:* Professional development refers to all of the formal and informal learning experiences that teachers have access to throughout their careers. It includes both preservice and in-service training and opportunities. Darling-Hammond et al. (2009) defined effective profession development to be intensive and ongoing, connected to practice and focused on specific content. DiPaola and Wagner (2018) expanded upon this definition to include that effective PD must be connected to existing initiatives.

- *Specially Designed Instruction (SDI):* Instruction that is specifically tied to a student's IEP. This instruction is provided through content and methodology that supersedes what is needed by typically developing learners. The SDI may occur in one or more domains, including academic, behavioral, organization, self-regulation, communicative, or vocational arenas (Friend, 2019; IDEA, 2004; Rodgers & Weiss, 2019).
- *Typically Developing Peers:* Students who have not been identified as having a disability under the IDEA.

CHAPTER 2

REVIEW OF RELATED LITERATURE

Following is a review of existing literature that provides the foundation for the program and the proposed program evaluation. Inclusion of students with disabilities in the educational setting alongside their general education peers is both a legal and moral imperative (Banerji & Dailey, 1995; Friend, 2019; Friend et al., 2010; McLaughlin, 2010). The passing of the Education for All Handicapped Children Act of 1975 ([EAHCA]; Public Law 94-142) mandated that all students with disabilities, to the greatest extent possible, be educated in their least restrictive environment (LRE). Since the passing of that law, and the subsequent iterations of the Individuals with Disabilities Education Act (IDEA), the promotion of inclusive practices for teaching students with disabilities has continued to rise (Banerji & Dailey, 1995; Magiera & Zigmond, 2005; McKenna et al., 2019; Solis et al., 2012). The inclusion of more students with disabilities in the general education setting has spawned the use of a variety of service delivery models, with co-teaching being among the most prevalent methods of service delivery for students with disabilities used across the country (Chitiyo & Brinda, 2018; Friend, 2019; Friend et al., 2010; Magiera & Zigmond, 2005).

Along with the legal and moral imperative for inclusion, legislative acts such as the No Child Left Behind Act and Every Student Succeeds Act have provided public education agencies with even further pressure to provide high quality educational services for students with disabilities (McLaughlin, 2010). Since the academic achievement of students with disabilities is inextricably linked to schools' accreditation and overall perceptions and calculations of school

performance, school districts must work diligently to ensure that students with disabilities are provided high quality services designed to promote their achievement and academic growth.

The Continuum of Services in Special Education

Since the passing of EAHCA (1975) and the subsequent iterations most recently defined in IDEA (2004), federal legislation has mandated that all students have access to a free and appropriate public education. The special education system provides students with disabilities to greater access to public education than ever before. The services provided through public special education services range from early childhood to post-secondary transition services, with delivery happening in every conceivable fashion, from consultative to residential programming (Aron & Loprest, 2012; M. Cook, 2002).

The Rise of Inclusion

Prior to the passing of federal legislation mandating free public education opportunities for all students, over 1 million students with disabilities did not attend school, and approximately 3.5 million were educated in entirely segregated settings (Aron & Loprest, 2012). The push to include students with disabilities in the public education setting was an embedded component of the Civil Rights and Disability Rights movements of the 1960s and 1970s. As early as 1968, Lloyd Dunn, special education teacher and former President of the Council for Exceptional Children, advocated placing all students with mild disabilities in the general education setting to promote their academic growth and educational outcomes (M. Cook, 2002).

Kirby (2017) conducted a review of existing literature to examine the current trends in special education and the implicit assumptions which exist surrounding students with disabilities in public education related to inclusion, intervention practices, and achievement of students with disabilities. Although Kirby reiterated that the federal regulations promote access for students

with disabilities to public education, there are still issues with segregation and lack of progress of students with disabilities existent across educational programs. Kirby found that school districts must continue to promote inclusive instruction of students with disabilities to disrupt the isolation of these students and to promote equitable student education opportunities and outcomes.

Co-Teaching as a Service Delivery Option

As a result of the requirement to include students with disabilities alongside their typically developing peers to the greatest extent possible, the use of co-teaching has increased as a service delivery model for students with disabilities (Austin, 2001; Chitiyo & Brinda, 2018; Friend, 2019; Friend et al., 2010; Magiera & Zigmond, 2005; Scruggs & Mastropieri, 2017). Although there are many definitions of co-teaching, the common characteristic of all definitions is that general and special education teachers work together within a general education setting to provide both grade level content instruction and the SDI required through the students' individualized education programs (Friend, 2019; Friend et al., 2010; Magiera & Zigmond, 2005; Solis et al., 2012).

Co-taught classrooms can allow teachers to provide differentiated instructional experiences using a variety of modalities. There are six commonly identified models of co-teaching as defined by multiple researchers; station teaching, parallel teaching, alternative teaching, team-teaching, one-teach, one-observe, and one-teach, one-assist (Carty & Farrell, 2018; Casserly & Padden, 2018; DiPaola & Wagner, 2018; Friend, 2019; Friend et al., 2010; Scruggs et al., 2007).

Station Teaching. The method of co-teaching that should be used most frequently in instruction is station teaching (Casserly & Padden, 2018; Friend, 2019). In station teaching, co-

teachers divide the students in the classroom into three or more groups based on pre-determined characteristics. Each teacher is responsible for delivering instruction to one group, and the groups rotate through the different stations. Station teaching provides teachers with the opportunity to decrease the student to teacher ratio, provide students with increased opportunities for practice and response, and to differentiate instruction or provide SDI based on students' individual needs and characteristics (Casserly & Padden, 2018; L. Cook & Friend, 1995; Friend, 2019; Friend et al., 2010). Along with the potential benefits of station teaching, however, some researchers have noted limitations and risks including increased noise in the classroom, increased opportunities for behavioral concerns, and the potential for decreased student engagement in the station in which students engage in independent work (Carty & Farrell, 2018; Dieker et al., 2013).

Parallel Teaching. Parallel teaching is a form of co-teaching in which the students in the classroom are separated into two groups which contain a mix of students with disabilities and their typically developing peers (Dieker et al., 2013; Forbes & Billet, 2012; Friend, 2019; Moorehead & Grillo, 2013). Parallel teaching provides teachers with the opportunity to decrease the student to teacher ratio and provide differentiated instructional experiences for the students (Friend, 2019). Once again, however, noise control and classroom management have been found to be limiting factors in the effective implementation of parallel teaching (Carty & Farrell, 2018).

Alternative Teaching. Alternative teaching is a co-teaching model in which a small group of students are pulled to receive specialized instruction by either the special education teacher or the general education teacher in the classroom (Carty & Farrell, 2018; Dieker et al., 2013; Friend, 2019; Friend et al., 2010; Forbes & Billet, 2012; Moorehead & Grillo, 2013; Sileo, 2011). Alternative teaching is appropriate for providing students with intense, individualized

instruction to either preload information or review the necessary skills for an upcoming lesson, provide remediation or reinforcement of previously learned material, or to provide extension opportunities for students who have already demonstrated mastery of a given concept or skill (Carty & Farrell, 2018; Friend, 2019; Moorehead & Grillo, 2013; Sileo, 2011).

Station teaching, parallel teaching, and alternative teaching have the potential to both increase teacher parity and positively impact student achievement (L. Cook & Friend, 1995; Moorhead & Grillo, 2013). Students who are engaged in station teaching and alternative teaching models of instruction have been shown to have increased willingness to engage in more challenging tasks. In addition, students who receive instruction through station teaching, alternative teaching, and parallel teaching models demonstrate increased collaboration with their peers than students who are taught through more traditional, whole-class methods (Carty & Farrell, 2018).

Team Teaching, One-Teach One-Assist, and One-Teach One-Observe. In addition to station, parallel, and alternative teaching, co-teachers may also employ team-teaching, the one-teach/one-assist model, or the one-teach/one-observe models of co-teaching. Team-teaching or teaming occurs when the general education teacher and the special education teacher simultaneously deliver instruction to the whole classroom population (Dieker et al., 2013; Forbes & Billet, 2012; Friend, 2019; Moorhead & Grillo, 2013). Team-teaching was previously touted as the epitome of successful co-teaching and previous iterations of co-teaching training touted that successful co-teaching was demonstrated when the two teachers were indecipherable from one another (Friend, 2019; Samuels, 2015). Teaming can provide teachers with the opportunity to demonstrate problem-solving in a variety of ways (Carty & Farrell, 2018), but often does not lead to instructional practices that could not be provided by a single teacher in a traditional

classroom (Friend, 2019). The ineffective implementation of teaming could inadvertently deny students access to the SDI required by their IEP and does not maximize the potential of the human resources in the classroom (Samuels, 2015).

The one-teach/one-observe model of co-teaching is appropriate for use when the special education teacher or general education teacher needs to collect specific observational data related to an individual student or group of students' performance (Friend, 2019; Friend et al., 2010). Similarly, the one-teach/one-assist model of co-teaching may be appropriate when there is a particular student in need of SDI or intervention in order to be able to adequately participate in subsequent classroom activities. This model, however, should be rarely used in effective co-taught classrooms (Friend, 2019). Despite the rarity of its appropriateness, one-teach/one-assist is the most prevalent model of instruction seen in co-taught classrooms (Friend, 2019; Friend et al., 2010; Scruggs et al., 2007).

Effectiveness of Co-Teaching

While co-teaching has long been an accepted method of service delivery, the research about its effectiveness for promoting student achievement is mixed. Co-teaching provides a mechanism to support students with disabilities in the general education environment, while continuing to provide for their individual needs as outlined in their IEPs (Magiera et al., 2005). There are many potential benefits to co-teaching. The presence of two licensed teachers in the classroom effectively lowers the student to teacher ratios and provides students with additional opportunities for student to teacher interactions (Magiera & Zigmond, 2005). Elementary classrooms with co-teaching supports have been shown to provide increased levels of positive reinforcement for students (Sweigert & Landrum, 2015). Vizenor and Matuska (2018) found that middle school co-taught classrooms provided multiple positive impacts for students with

disabilities, including a reduction of the stigma associated with being a student with a disability, more access to differentiated approaches, additional teacher attention, and a reduction of social and achievement gaps between the students with disabilities and their typically developing peers. Hang and Rabren (2009) found that a cohort of students with disabilities performed both academically and behaviorally better during an academic year of co-teaching as compared to a previous year in which the students were educated in a segregated environment.

A 2006 study of 346 secondary students indicated that all of the students responded that co-teaching had benefited their grades and their literacy skills. General education students in the same study indicated that co-teaching classrooms provided them with greater opportunities for higher level learning (Wilson & Michaels, 2006). Tremblay (2013) found that students with disabilities in co-taught classrooms demonstrated higher achievement in reading, writing, and school attendance than a comparison group of students who were taught in a separate special education setting. Hang and Rabren (2009) cited that students in co-taught classrooms who were taught by effective collaborative teaching partners indicated overall satisfaction with the co-taught classroom and that their co-taught classrooms provided them with increased academic support. The same students indicated that there were fewer behavioral concerns in their co-taught classrooms than in classes with only one teacher.

While the previously cited studies and researchers touted the benefits of co-teaching, other studies cast doubt on co-teachings' effectiveness in promoting students' achievement and as a valuable use of school district resources. Hattie and Yates (2014) conducted a meta-analysis of educational research finding a significant lack of empirical evidence supporting inclusion and co-teaching as an effective means of promoting students' achievement. Inclusion and

mainstreaming of students with disabilities demonstrated and effect size of .27, while co-teaching evidence manifested in an effect size of only .19.

Many factors are cited to play into the lack of empirical evidence which supports co-teaching effectiveness. Multiple researchers have shown that special education teachers are most likely to act in a subordinate role in co-taught classrooms and are most likely to use a one-teach, one-assist model of co-teaching (Friend, 2019; Friend et al., 2010; Magiera & Zigmond, 2005; Scruggs & Mastropieri, 2017; Solis et al., 2012). While this model may be appropriate in certain circumstances, it does not provide students with many of the potential benefits of co-teaching such as a reduction of student-teacher ratios, exposure to multiple designs of classroom grouping and lesson delivery options, and access to SDI (Friend, 2019). A meta-analysis of 37 qualitative studies conducted by Scruggs et al. (2007) indicated that instruction in co-taught classrooms was likely to mirror that which was provided in classrooms taught by a single general education teacher, and that there is generally little differentiation or implementation of SDI to meet the needs of students with disabilities in those classrooms.

Sweigert and Landrum (2015) formed additional conclusions which question the effectiveness and benefit of co-teaching. While secondary students in co-taught classes were provided with increased opportunities for response, these students were found to be systematically less engaged than the students in classes taught by single teachers. The same study indicated that while co-taught classrooms were found to provide elementary students with increased positive reinforcement from both teachers, the same was not found to be true in secondary classrooms.

Unfortunately, the presence of two teachers in the classroom and the reduction of student to teacher ratios does not necessarily lead to increased student-teacher interactions, and in fact,

may limit the number of interactions that students with disabilities have with the general education teacher who is typically the content expert (Magiera & Zigmond, 2005). Some researchers have found that students with disabilities and their general education counterparts perform equally well in single-taught classes led by a highly qualified and effective teacher as they do in co-taught classes (Hang & Rabren, 2009; Scruggs et al., 2007). Other researchers have also contradicted the findings that co-teaching partners speak positively of the co-teaching experience by demonstrating resentment on the part of the general education teacher for the lack of content knowledge and professional contribution of the special education teacher. Special education teachers have not consistently been shown to demonstrate unique contributions to the co-taught classroom, thereby limiting their impact (Kloo & Zigmond, 2008; Magiera & Zigmond, 2005). Inherently, for co-teaching to be an effective means of instruction and service delivery to meet the needs of students with disabilities and their typically developing peers, the co-teachers must share common vision, deliver instruction based on their unique skills and expertise, and incorporate SDI (Friend, 2019; Rodgers & Weiss, 2019).

Limitations on Co-Teaching Effectiveness. Although the empirical evidence related to the effectiveness of co-teaching as a means of supporting student achievement is mixed, the evidence is clear that there are consistent factors related to the ineffective implementation of co-teaching practices. Carty and Farrell (2018) conducted a study done in three subsequent phases to collect both teacher and student data related to perceptions of co-teaching and its effectiveness. Stage 1 of the study examined the circumstances which either promoted or formed barriers for effective co-teaching, while Stages 2 and 3 examined the impact of the different co-teaching models and teachers' perceptions of the efficacy of co-teaching. Findings were

consistent across the subjects, in that lack of training and inadequate planning time were barriers to the effectiveness of co-teaching.

Although many practitioners point to inadequate time and resources for co-planning instruction as the main culprit behind ineffective co-teaching, common planning alone is not an adequate solution to improvement of co-teaching practices (Rimpola, 2014; Scruggs et al., 2007). Inadequate teacher preparation and understanding of co-teaching and SDI are key contributors to the lack of effective co-teaching implementation (Chitiyo & Brinda, 2018; Friend, 2019; Friend et al., 2010; Kloo & Zigmond, 2008; Scruggs & Mastropieri, 2017; Scruggs et al., 2007).

Although more general and special education teachers are expected to co-teach as part of their job responsibilities, many teachers have indicated that they do not feel adequately prepared to co-teach (Chitiyo & Brinda, 2018). In a study of 77 teachers in inclusive classrooms, in which 87% were general education teachers and 12% were special education teachers, Chitiyo and Brinda (2018) found that only 50% of the participants felt confident in using co-teaching as an instructional strategy. More than half of the participants believed that they required additional training to be able to co-teach effectively. In fact, less than half of the participants indicated that they had had any training in co-teaching as part of their university teacher preparation coursework.

Teachers cite that the disparity between special education teachers' and general education teachers' understanding and vision for co-teaching are tremendous barriers for the effective implementation of co-teaching (Carty & Farrell, 2018). Casserly and Padden (2018) found that while teachers believe that co-teaching has potential to meet the needs of their students, teachers are limited by a lack of understanding of the different models and their uses in the classroom. Overwhelmingly, teachers in these studies indicate a desire for continued professional

development related to co-teaching in order to increase their effectiveness in supporting students in the co-taught classroom.

SDI

In 2018, 63.1% of students with disabilities spent most of their day in classrooms with students without disabilities (U.S. Department of Education, 2018). This is partially due to the increased use of co-teaching as a means of service delivery. Previous interpretations of co-teaching led school-based administrators and teachers to perceive that the epitome of effective co-teaching is for the general education and special education teachers to be indistinguishable from each other (Friend, 2019). However, this practice is not appropriate and may inadvertently deny students access to the specialized instruction that is mandated by their IEPs (Friend, 2019; Friend et al., 2010; Samuels, 2015). Strong co-teaching requires that there are two different teachers in the classroom each of whom is exhibiting their own specific type of expertise to contribute to the students' achievement (Friend, 2019).

Specialized instruction, also known as SDI, is defined in the IDEA (2004) as adapting content, methodology, or delivery of instruction to meet students' needs which result from their disability and to ensure that the students have access to the general curriculum to the extent appropriate as outlined by their IEPs. This instruction is provided through content and methodology that supersedes what is needed by typically developing learners. SDI may occur in one or more domains, including academic, behavioral, organization, self-regulation, communicative, or vocational arenas (Friend, 2019).

SDI is implemented when teachers consider the unique characteristics of the learners in the classroom and develop lessons which incorporate high-leverage instructional practices such as explicit instruction, scaffolding, or meta-cognitive strategies to meet the learners' needs

(Nguyen, 2012; Riccomini et al., 2017). There are many evidence-based, programmatic approaches which are commonly used to support students with disabilities. However, prepackaged, commercial programs are not required to provide SDI for students with disabilities and are often not the most appropriate means of providing SDI within the co-taught classroom (Archer & Hughes, 2011; Friend, 2019; Friend et al., 2010).

SDI is delivered by combining instructional intensity and high leverage practices specifically identified based on unique characteristics of the student. Teachers should use the different co-teaching models to employ individualized adaptations or modifications appropriate to students' disability related needs within the comprehensive classroom setting (Friend, 2019; Friend et al., 2010). For example, certain groups of students may receive scaffolded approaches to the content that are dynamic and interactive, providing the students with temporary structures which allow them to engage in higher level thinking and grade level content, even if the students do not possess all of the prerequisite skills for completing the given tasks and assignments (Nguyen, 2012). Another common method of implementing SDI within the co-taught classroom is offering instruction at an altered pace or spiraling back to previous content more frequently in order to provide students with disabilities with more opportunities for practice and engagement in given content before moving on to another task or skill (Archer & Hughes, 2011; Nguyen, 2012). The station-teaching, alternative-teaching, and parallel-teaching models of co-teaching are particularly supportive in providing SDI within the inclusive, co-taught classroom (Friend, 2019; Nguyen, 2012). By using data and student characteristics to fluidly group students and to design and deliver targeted instruction that is designed to support students' individual learning needs as well as the content standards, special education and general education teaching pairs can fulfill

the instructional goals outlined in students' IEPs and close academic and behavioral achievement gaps (Friend, 2019; Samuels, 2015).

In 2012, the Office of Special Education Programs published a clarifying memo stating that SDI is not equivalent to providing students with disabilities access to the general curriculum through the use of accommodations, and that while quality core instruction is a requirement for all students, students with disabilities require more than simply solid Tier 1 instruction to make progress. Sayeski et al. (2019) determined that "it is disingenuous to pretend that students who are two or more years behind their typical peers can maintain the same pace of learning simply through the provision of an accommodation or the inclusion of an evidence-based practice" (p. 265). Therefore, it is imperative that special education teachers be skilled in the science of SDI to move the needle for students with disabilities.

Research has indicated that SDI is not consistently seen in lesson plans and observations of co-taught classes (Friend, 2019; Rodgers & Weiss, 2019; Samuels, 2015). The provision of SDI in secondary classrooms is particularly difficult because of the intensive focus on grade-level, subject-specific content and rigorous pacing guidelines (Rodgers & Weiss, 2019). An over-reliance on the one-teach one-assist or team-teaching models of co-teaching in co-taught classrooms has further limited the ability of special education teachers to provide SDI within those classrooms (Friend, 2019; Samuels, 2015). In addition to the structural barriers that make the delivery of SDI more difficult, evidence exists that teachers are not graduating from teacher preparation programs with the technical skills required to meet the needs of the students they serve. Special education preparation programs are not producing candidates who can successfully provide SDI which promotes meaningful progress for students with disabilities (Sayeski et al., 2019). Teacher preparation programs must change the way they are teaching, but

until that occurs, local education agencies must provide in-service professional development opportunities to support teachers' professional learning and understanding related to SDI.

The Impact of Professional Development on Teacher Practice

It is the responsibility of leaders to build the collective efficacy of teachers to promote positive changes in teachers' behaviors and student success (Donohoo et al., 2018). Although some studies have indicated that co-teachers' lack of effectiveness in proving positive inclusive instructional experiences is closely tied to lack of common planning time and preparation, Rimpola (2014) found that common planning time alone is not adequate to improve the performance of co-teaching pairs. Instead, co-teachers must participate in meaningful professional development focused on improving their collective knowledge, skills, and efficacy in evidence-based practices for inclusive programming.

Teacher Efficacy and its Impact on Student Achievement

Bandura (1977) defined the concept of self-efficacy as an individual's perceptions of their own ability to act in a way which produces desired results. Bandura's research indicated the relationship of self-efficacy to outcomes in a variety or arenas, including academic achievement (Bandura, 1993). Individuals' self-efficacy can have a direct impact on their actions and efforts (Goddard et al., 2004). Teachers' sense of efficacy predicts their use of effective teaching practices; teachers who have high senses of self-efficacy are more likely to demonstrate increased organization, planning, student-centered lessons, and humanistic instruction (Goddard et al., 2004).

Tschannen-Moran and Woolfolk Hoy (2001) defined teacher efficacy as a teacher's "judgment of his or her capabilities to bring about desired outcomes of student engagement and learning, even among those students who may be difficult or unmotivated" (p. 783). Efficacy is a

chief factor which contributes to student achievement (Donohoo et al., 2018; Hattie, 2012). Beyond teachers' individual sense of efficacy for supporting student achievement, research has shown that collective efficacy on the part of teaching partners or groups of teachers has a direct and positive impact on student achievement (Donohoo et al., 2018).

Teachers' perceptions of their ability to support students' academic growth have a direct impact on student achievement, motivation, students' own efficacy, and teachers' classroom behaviors (Donohoo et al., 2018; Hattie, 2012; Tschannen-Moran & Woolfolk Hoy, 2001). Guskey (1982) found that teachers who understand and use effective and evidence based instructional practices are more likely to have higher expectations for their students' outcomes. With the implementation of effective instruction, teachers' initial attitudes toward lower student ability can change, and teachers' trust in themselves and their efficacy toward supporting more challenging groups of students can increase.

Teacher quality matters. Struggling learners are more likely to be assigned to ineffective teachers. Teacher quality has a significant impact on students' achievement (Mangiante, 2011). Teacher efficacy is a key component of teacher quality. Local education agencies must provide teachers with learning opportunities that are designed to increase their efficacy in supporting diverse groups of learners (Hattie, 2012; Mangiante, 2011). Job-embedded, sustained professional development opportunities are imperative to building teachers' capacity and efficacy to support students (Althauser, 2015).

Foundations of Effective Professional Development

Teachers' professional development, both preservice and in-service, should have a positive impact on student achievement, however many of the professional learning opportunities that teachers participate in fail to promote student growth. In fact, much of the professional

development programming conducted by school districts is ineffective in impacting substantial positive change to teachers' professional practice (Bates & Morgan, 2018; Desimone et al., 2002).

School leaders have stated that the methods used to deliver professional development are imperative to the outcomes and changes in teachers' behaviors as a result of the professional development (Bates & Morgan, 2018; Desimone et al., 2002). Too often, professional development programming is not approached in a systematic manner, and the lack of follow-through and reinforcement of the professional learning opportunities negatively impacts teachers' professional growth. School districts must approach professional development from a systemic and unified vision so that teachers do not receive conflicting messages or interpret that different groups within the school district have differing priorities and are at odds with one another (Brown & Militello, 2016; Desimone et al., 2002; Miles & Guiney, 2000).

Professional Development and Social Learning Theory. Teachers who have a high sense of efficacy regarding their professional capabilities create environments that empower students to learn (Bandura, 1993; Lotter et al., 2016). Positive and effective professional development opportunities are key components to building teachers' self-efficacy and skills. Building teachers' self-efficacy empowers teachers to build mastery environments where students are empowered to learn (Lotter et al., 2016).

Bandura (1977) and Wenger (2000) demonstrated that learning takes place through a variety of experiences and exposures, and learning is solidified through social constructs in which individuals are able to work together and construct learning toward a common goal. By providing teachers with professional learning opportunities which capitalize on opportunities for modeling and collaborative learning experiences, in effect, combining systems thinking and

social learning theories, districts will be able positively influence teachers' beliefs and instructional practices (Bond & Blevins, 2019; Lotter et al., 2016).

Elements of Effective Professional Development. In order to provide professional learning opportunities that positively impact teachers' efficacy, skill, and action, school districts must zero in on and incorporate those elements which are most closely aligned to promoting the desired instructional outcomes. Bates and Morgan (2018) conducted a meta-analysis of 35 studies that connected changes in teacher practice related to professional development and increases in student outcomes. They identified seven elements that are critical to the impact of professional development: focus on content, active learning, support for collaboration, models of effective practice, coaching and expert support, feedback and reflection, and sustained duration.

Focus on Content. Bates and Morgan (2018) state that designing professional development that is closely aligned and driven by the content that teachers are currently engaged in is a key element to the effectiveness of professional development programs. By delivering professional development that is aligned to teachers' content areas and which contains specific strategies for supporting students in attaining content area goals, professional developers are better able to promote changes in teachers' professional practice (Bates & Morgan, 2018; Valiandes & Neophytou, 2018).

Active Learning. Traditional lecture models have been found to be less engaging and influential in changing teachers' professional practice (Bates & Morgan, 2018). Professional development sessions should seek to include active learning and interactive processes in which the participants engage in opportunities to collaborate on questions of practice and reflect on problems of practice and potential answers to those problems (Bates & Morgan, 2018; Darling-Hammond et al., 2009; DiPaola & Wagner, 2018)

Support for Collaboration. By providing teachers the opportunity to collaborate as a part of professional development, developers can take advantage of social learning and support teachers to develop collective knowledge and understanding that builds their efficacy and extends beyond individual classroom practice (Bates & Morgan, 2018; Wenger, 2000). When colleagues work together in a non-evaluative, co-learner capacity, they are more likely to develop trusting relationships which promote effective professional practice (Bates & Morgan, 2018; Costa & Kallick, 1993)

Models of Effective Practice. Using modeling and providing exemplar models of practice increases the effectiveness of professional development. "Teachers benefit from seeing instructional practices in action, whether via video, demonstration lessons, peer observations, or case studies of teaching" (Bates & Morgan, 2018, p. 624). By demonstrating the methodologies, content, and strategies that professional development seeks to promote, teachers are better able to develop a vision of what that particular practice could look like within their own classrooms and professional practice.

Coaching and Expert Support. Professional development is most effective when it is combined with extended expert support (Bates & Morgan, 2018; Fountas & Pinnell, 2009). Coaches and experts who work collaboratively with teachers are better able to support teachers in seeing possibilities in decision making and to empower teachers to try new and different methodologies in their classrooms (Bates & Morgan, 2018; Bean & DeFord, 2012).

Feedback and Reflection. Professional development is most effective when it provides "built-in time for teachers to think about, receive input on, and make change to their practice" (Darling-Hammond et al., 2017, p. 14). Constructive feedback that is connected to data and focused on improvement increases learning and application of desired skills and practices (Bates

& Morgan, 2018). Feedback is most effective in supporting change of practice when teachers have the time and ability to think about and reflect on the feedback to deepen their learning. According to Bates and Morgan (2018), teachers make the most professional growth when they consider feedback and reflection as integral parts of their practice and their students' outcomes.

Sustained Duration. Professional development that is one-stop or sit-and-get is not effective for professional learning (Bates & Morgan, 2018; Darling-Hammond, 2017; DiPaola & Wagner, 2018). Sustained focus to content and skills that spans over a time is imperative to effective professional development programming (Bates & Morgan, 2018; DiPaola & Wagner, 2018; Wei et al., 2010). When professional development is job-embedded and provides opportunities to engage in the content in the teachers' own classrooms, it is more likely to produce positive changes in professional practice.

Delivering Effective Professional Development. Professional development that focuses on specific strategies and content-related practices along with being collaborative and focused on collective efficacy increases the use of effective practices in teachers' classrooms and is tied to student success. Effective professional development is ongoing, relevant, content specific, and relationship oriented (Bates & Morgan, 2018; Chong & Kong, 2012; Desimone et al., 2002; Valiandes & Neophytou, 2018).

It is the responsibility of educational leaders to provide professional learning opportunities to build teachers' efficacy and promote positive changes in teachers' behaviors and student outcomes (Donohoo et al., 2018; Hattie & Yates, 2014). Valiandes and Neophytou (2018) conducted a study which looked at the impact of a professional development program on both teachers' attitudes toward differentiated strategies to meet students' needs and the subsequent impact on student performance. By using observation tools and semi-structured

interviews, the researchers assessed the professional developments' impact on 14 teachers who volunteered to participate in the study. The study reiterated that teachers are seeking professional development opportunities that are directly related to the work that they are currently engaged in, and which provides active and collaborative learning structures which take into account the current realities of the teaching profession.

Other researchers have sought to explicitly link the effects of different types of professional development to concrete and positive changes in teaching and learning in the classroom (Desimone et al., 2002). These researchers conducted a study built on previous research that identified six characteristics that are present in quality professional learning activities; focus on content, active-learning opportunities, collective organizational participation, coherence, duration of learning activities, and reform models of professional learning that extend beyond traditional workshop or conference approaches.

While national data indicated that only an average of 23% of professional development opportunities supported by individual school districts incorporate the all of the key elements of professional development which have been proven to be effective, research does support that providing teachers with professional learning which is tightly aligned to their content and overarching initiatives and which uses the strategies of modeling, opportunities for feedback and reflection, and collaboration with their colleagues and peers supports professional change (Bates & Morgan, 2018; Desimone et al., 2002; Pancsofar & Petroff, 2013).

Pancsofar and Petroff (2013) found that in-service professional development related to co-teaching has a significantly positive effect on teachers' efficacy and confidence in collaborative teaching practices, when co-teaching is part of the teachers' current job responsibilities. Through a study which sampled 129 teachers from five different school

divisions, the researchers examined the impact of the amount of co-teaching professional development the teachers had participated in on their attitudes and efficacy toward co-teaching.

Pancsofar and Petroff (2013) used a series of multiple-regression analyses to look at the outcome variables of teacher confidence, attitude, and interest toward co-teaching. The researchers found that both in-service and pre-service professional development had a significantly positive effect on both general and special education teachers' confidence as related to co-teaching, but while in-service supported teachers to develop confidence, interest, and positive attitude, there was not a significant correlation for pre-service professional development and teachers' attitudes and interest in co-teaching. An additional interesting finding was that teachers' experience in co-teaching was a determining factor in teachers' confidence and interest in co-teaching.

Summary

Inclusion of students with disabilities continues to be both a legal mandate and a moral imperative. As such, co-teaching has become and will continue to be the service delivery model that is most prevalently used to support the inclusion of students with disabilities in the general education classroom (Banerji & Dailey, 1995; Magiera & Zigmond, 2005; McKenna et al., 2019; Solis et al., 2012). However, federal and state educational accountability regulations have highlighted that simply including students with disabilities in the classroom and providing them with the same core content instruction as their typically developing peers is not enough to promote their academic, behavioral, and social achievement (Friend, 2019; Kirby, 2017).

Current research and trends in special education emphasize the need for special education teachers and general education teachers to collaborate to provide both solid core instruction and SDI to meet the needs of the diverse learners in today's classrooms (Carty & Farrell, 2018;

Casserly & Padden, 2018; Friend, 2019; Friend et al., 2010). Researchers are now promoting that both the general and special education teachers must demonstrate their unique professional skills and expertise in the classroom in order to truly provide adequate special education services in the co-taught classroom (Friend, 2019). This type of instruction can be provided if the co-teachers are versed in the different models of co-teaching and their application.

Unfortunately, the majority of both special education and general education teachers are not adequately trained and prepared to be effective co-teachers (Chitiyo & Brinda, 2018; Friend, 2019; Sayeski et al., 2019). To address the inadequacy of teachers' knowledge and skills in the areas of co-teaching and SDI, local education agencies must develop in-service professional development opportunities that promote teachers' efficacy and skill in co-teaching and delivery of specialized instruction (Hattie & Yates, 2014; Donohoo et al., 2018). These professional development programs must be designed to incorporate high-yield, active learning strategies that are relevant to teachers' current professional experiences and needs (Bates & Morgan, 2018; Chong & Kong, 2012; Desimone et al., 2002; Pancsofar & Petroff, 2013; Valiandes & Neophytou, 2018).

CHAPTER 3

METHODS

The purpose of this mixed-methods program evaluation was to provide the program developers and stakeholders with information to support the growth of effective inclusive instructional practices for students with disabilities. This evaluation of the short-term outcomes following the first year of the professional development program analyzed the participants' perceptions of their efficacy, skills, and knowledge related to co-teaching as a means of supporting inclusive instruction and to determine what additional supports and training were desired. Data was gathered using qualitative measures in the form of focus groups with the teachers who participated in the training and the specialists who developed and provided professional learning opportunities for the co-teaching pairs. Extant quantitative data came from OCPS through co-teachers' completion of the Teacher Sense of Efficacy Scale (TSES) (Tschannen-Moran & Woolfolk Hoy, 2001) which was administered as a pre-post assessment.

Increased efficacy and knowledge in methods to support students with disabilities was an intensive focus for school district leaders, therefore this program evaluation captured the participants' perceptions of their levels of efficacy, knowledge, and skill in co-teaching following targeted in-service professional development opportunities.

Evaluation Questions

The program evaluation sought to answer four evaluation questions:

1. After participating in a professional development program designed for co-teaching effectiveness, what are teachers' perceptions of their efficacy to implement the co-

teaching models, specifically the station teaching, parallel teaching, and alternative teaching models?

2. After participating in the professional development program, how do teachers perceive their co-teaching classroom practices changed in delivering specialized instruction? What changes in teachers' classroom practice were perceived by the specialists who provided the training?
3. Which elements of a professional development program designed for co-teaching effectiveness do the teachers and specialists find to be most beneficial, and which least beneficial?
4. What suggestions do the teachers and specialists have for improving a professional development program designed for co-teaching effectiveness?

The program evaluation design was guided by the program evaluation standards of utility, feasibility, propriety, and accuracy (Yarbrough et al., 2010). This chapter provides details regarding the participants, data sources, data collection methods, and the processes that were implemented for data analysis. The assumptions, limitations, and delimitations of the program evaluation are also described.

Program Evaluation Approach or Model

As outlined in Stufflebeam's CIPP model for program evaluation, this evaluation focused on the processes of professional development and the participants' and specialists' perceptions of how those processes affected the participants' knowledge, skills, and efficacy in using the different co-teaching models to support inclusive education for secondary students. The program evaluation used a pragmatic, mixed-methods approach to collect and analyze data which was triangulated to inform district leaders as to how to continue, expand, and alter the program to

meet teachers' needs. The pragmatic approach was appropriate for this program evaluation as it provided researchers with a platform to gather information and draw conclusions that were demonstrative of the use and effectiveness of the program (Creswell & Creswell, 2018; Mertens & Wilson, 2012).

By using a pragmatic, mixed-methods approach to the investigation, I had the freedom and flexibility to choose the procedures and processes that provided the most relevant information for the evaluation (Mertens & Wilson, 2012). The ability to gather and analyze both quantitative and qualitative data during the evaluation provided the greatest understanding of the research problems, specifically from the perspectives of the current participants, by taking into account their specific contexts. In addition, the triangulation of quantitative and qualitative data provided a richer context and understanding of the study participants' perceptions (Creswell & Creswell, 2018). Triangulating the extant data from the TSES (Tschannen-Moray & Woolfolk Hoy, 2001) along with the data gleaned from the teacher and specialist focus group, strengthened the credibility of the evaluation findings (Mertens & Wilson, 2012).

The Use Branch of program evaluation focuses strongly on data that are most useful to the program stakeholders and allows the researcher to evaluate a program in a way that provides information that can be used in a practical, rather than theoretical, manner (Mertens & Wilson, 2012). The findings of this study will provide school district leaders with information that can be used to inform future in-service professional development opportunities for special education and general education teachers. The information gathered during this formative evaluation examined the teachers' perceptions of their efficacy, skills, and knowledge related to co-teaching as a means of supporting inclusive education following the initial year of focus and training. The

evaluation provides program stakeholders with information about what supports and training the participants believe are still needed to continue in their professional growth.

Description of the Program Evaluation

The program evaluation was conducted using a mixture of extant quantitative data collected through the pre/post-test administration of the TSES (Tschannen-Moran & Woolfolk Hoy, 2001) and the analysis of qualitative data collected through focus groups with the teachers and specialists. Focus groups were conducted by a neutral third-party using protocols which were been vetted by a panel of experts.

Role of the Researcher

I was the facilitator of the program evaluation; I worked collaboratively with the school District's research department to access the extant data and employed a neutral third party to conduct the focus groups with teachers and specialists who provided the professional development program. I sought guidance on the development of protocols from a panel of experts in the realms of research, special education, and professional development. I transcribed the interviews, using the Dedoose software application, then conducted the qualitative analysis of the data. Participants had the opportunity to review all syntheses of the qualitative data for the purposes of clarifying or adding additional relevant information. A discussion of my role in OCPS and potential areas of bias are further detailed in this chapter under ethical considerations.

Participants

Participants in the program evaluation were selected from the teachers who participated in the professional development program and the specialists who designed and delivered the professional development program.

Teachers

The sample of potential teacher participants included 61 middle and high school general and special education teachers who participated in targeted monthly professional development sessions over a 4-month period and engaged in the subsequent semester with observations, coaching, and feedback from the specialists. A group of 31 general education teachers and 30 special education teachers were selected by school principals to participate in the program. Participants in the professional development were selected by their school principals or volunteered to participate in the professional development opportunities. The one additional general education teacher who participated did so due to his school administrator's request and personal interest in the subject matter. However, this individual did not participate with a co-teaching in the same manner as the other participants and was not included in the sample of participants which informed the study.

Collaborative teaching partners representing 15 middle school co-teaching pairs and 15 high school co-teaching pairs participated together in each professional development session. Each of these pairs of teachers were responsible for co-teaching an English or math class during the school year. Although 18 of the co-teaching pairs had partnered in teaching during the previous year, 12 co-teaching pairs were working together for the first time. A total of 72% of the participants were female and 27.9% were male; 42.6% of participants identified as Black, 55.7% identified as White, and 1.6% identified as Asian.

The participants' total years of teaching experience ranged from 1–25 years, with 42.6% of participants indicating that they had been teaching between 1–5 years; 3.3% of participants indicating teaching 21–25 years. All participants were licensed to teach by the Virginia Department of Education, with 49.2% of participants holding a post-graduate professional

license. Additionally, 9.7% of the general education teachers and 23.3% of the special education teachers were continuing education and coursework to obtain certification in their content area or special education. Table 1 displays the demographic data of the participants in the professional development program.

Table 1

Teacher Demographic Information

Category	*Teachers*					
	General Education (n=31)		*Special Education (n=30)*		*Overall Population (N=61)*	
	n	%	*n*	%	*n*	%
Gender						
Female	22	71.0%	22	73.3%	44	72.1%
Male	9	29.0%	8	26.7%	17	27.9%
Race						
Asian	1	3.2%	0	0.0%	1	1.6%
Black	10	32.3%	16	53.3%	26	42.6%
White	20	64.5%	14	46.7%	34	55.7%
Years Teaching						
1-5	13	41.9%	13	43.3%	26	42.6%
6-10	5	16.1%	6	20.0%	11	18.0%
11-15	10	32.3%	7	23.3%	17	27.9%
16-20	2	6.5%	3	10.0%	5	8.2%
21-25	1	3.2%	1	3.3%	2	3.3%
Years Co-Teaching						
0	10	32.3%	4	13.3%	14	23.0%
1-5	11	35.5%	17	56.7%	28	45.9%
6-10	5	16.1%	5	16.7%	10	16.4%
11-15	3	9.7%	2	6.7%	5	8.2%
16-20	1	3.2%	1	3.3%	2	3.3%
21-25	1	3.2%	1	3.3%	2	3.3%
Licensure						
Collegiate Professional	13	41.9%	8	26.7%	21	34.4%
Postgraduate Professional	15	48.4%	15	50.0%	30	49.2%
Provisional	3	9.7%	7	23.3%	10	16.4%
Level						
Middle School	16	51.6%	15	50.0%	31	50.8%
High School	15	48.4%	15	50.0%	30	49.2%
Content						
English	15	48.4%	15	50.0%	30	49.2%
Math	15	48.4%	15	50.0%	30	49.2%
Science	1	3.2%	0	0.0%	1	1.6%

While I had initially planned to select a cross section of the total participants to participate in the teacher focus groups which included eight co-teaching pairs, with one pair from

each participating school and an equal representation of both English and math content teachers, I was unable to carry out this process in the final focus group selection process due to teacher turnover from one school year to the next and a lack of responsiveness from the teacher participants. In order to select teacher focus group participants, I first identified those individuals who participated in the CTPDP who continued to be employed by OCPS and who were still engaged in the co-teaching pair and content area that they were in during the program. I invited each of the co-teaching pairs who fit these criteria to participate in the focus group.

Specialists

A team of special education specialists and English and math content specialists collaborated to deliver the professional development and lead the secondary inclusive education improvement initiative for OCPS. These individuals provided useful data to inform the program evaluation due to their experiences in the PD sessions and their experiences and observations of the co-teaching pairs' classroom practices. These specialists were responsible for designing and delivering the content in each of the program sessions. In addition to the PD sessions, the specialists also conducted classroom observation and feedback cycles specifically related to co-teaching and SDI practices for the participants in the program between August 2019 and March 2020. The specialists also led and participated in reflective conversations with the co-teaching pairs regarding their experiences and expectations surrounding co-teaching and the implementation of SDI in their collaborative classes.

Seven total specialists participated in the study, representing four special education specialists, two English specialists, and one math specialists. These individuals hold post-graduate professional degrees in their respective content areas and are endorsed in Pre-K through 12th grade administration and supervision by the state department of education.

Data Sources

Data to inform the evaluation were collected through a combination of extant quantitative data from the pre-post administration of the TSES (Tschannen-Moran & Woolfolk Hoy, 2001) which was conducted by the program developers and qualitative data collected through interviews with selected teacher participants and a focus group of the specialists who developed and delivered the professional development program.

Survey

Teacher participants completed the TSES developed by Tschannen-Moran and Woolfolk Hoy (2001) as a pre-post assessment during the 2019-2020 implementation of the professional development program. The pre-assessment was provided to the participants in August 2019, and the post-assessment was provided May 2020. It is important to note that the post assessment was provided to the participants two months after the closure of schools related to COVID-19. While teachers were no longer providing face to face instruction for their students, the co-teaching partners were still responsible for providing virtual learning opportunities for their students through OCPS' distance learning program. While this disruption to the regular delivery model altered the opportunities to observe, coach, and assess the delivery of the professional development content, it is nonetheless valuable to evaluate the short-term outcomes from this program. Regardless of the delivery model, as schools re-open there will be an expectation that co-teaching and SDI be provided for students with disabilities.

The TSES (Tschannen-Moran & Woolfolk Hoy, 2001) was developed through a series of studies and validation processes which resulted in a 24-item long-form questionnaire. The TSES measures teacher efficacy based upon the definition of efficacy as a teacher's "belief in his or her

capability to organize and execute courses of action required to successfully accomplish a specific teaching task in a particular context" (Tschannen-Moran et al., 1998, p. 233).

The TSES (Tschannen-Moran & Hoy, 2001) is considered both highly reliable and highly valid. The TSES' reliability was established through calculating the Chronbach's alpha and Split Half methods. The Split Half value for the TSES is 0.90 (N=82) and the Chronbach's alpha scores for the combined factors of the TSES is 0.9446. The TSES' validity was established by circulating the form to a panel of experts in the fields of education and research. Additionally, validity was established by taking the square root of the reliability coefficient to determine the intrinsic validity of the instrument. The intrinsic validity of the TSES is 0.9719, which demonstrates a highly valid instrument (Vincent De Paul, 2012). A copy of the TSES can be found in Appendix B.

Teacher Focus Groups

Qualitative data to inform the program evaluation was gathered through a focus group with co-teaching pairs representing the schools which participated in the professional development program along with a focus group consisting of the specialists who designed and delivered the professional learning opportunities.

The teacher focus group protocol was designed to gather information to inform each of the four evaluation questions. Questions for the teacher focus group were designed to collect information related to the teachers' perceptions of their knowledge, skills, and efficacy for effectively implementing the station teaching, alternative teaching, and parallel teaching models of co-teaching in their classrooms as a means of delivering specialized instruction after participating in the professional development. Questions were also designed to help me understand which elements of the professional development program were found to be most

effective by the program participants and what additional supports and training are still needed and desired.

The teacher focus group protocol was aligned with the content of the CTPDP which was guided by research surrounding effective co-teaching practices (L. Cook & Friend, 1995; Friend, 2019; Friend et al., 2010), along with the research surrounding effective professional development (Bandura, 1993; Bates & Morgan, 2018; Desimone et al., 2002; DiPaola & Wagner, 2018; Wenger, 2000) and understanding of teacher efficacy (Bandura, 1977; Hang & Rabren, 2009; Tschannen-Moran & Woolfolk Hoy, 2001). In order to increase the trustworthiness of the focus group protocol, a multi-disciplinary panel of experts representing professionals in special education, research, and professional development conducted a review prior to the implementation of the focus group (see Appendix C for the Teacher Focus Group Protocol). Table 2 shows the alignment of the teacher focus group questions and evaluation questions and categorizes the questions by type. Opening questions did not directly inform the study but were presented to introduce participants to the structures of the focus group and promote comfort with the environment. Introductory questions were used to support transitioning the participants to different topics throughout the focus group process.

Table 2

Alignment of Teacher Focus Group Questions and Evaluation Questions

Teacher Focus Group Questions	Type	Evaluation Question
1. Prior to participating in the program, how many years of co-teaching experience had you had?	O	N/A
2. What was your knowledge of co-teaching and specialized instruction prior to participating in the program?	I	1, 2
3. Which co-teaching models do you use most frequently? Why? a. How skilled are you with using the station teaching model? b. How skilled are you with using the parallel teaching model? c. How skilled are you with using the alternative teaching model?	K	1, 2
4. In what ways do you use the co-teaching models in your classroom to provide specialized instruction in your classrooms?	K	1, 2
5. Do you think the co-teaching strategies that you are using are effective in educating students with disabilities in your classroom? If yes, why are they effective? If no, why are they not effective?	K	1
6. Did you change any co-teaching approaches that you used in your classroom based on the learning from the professional development sessions?	K	1, 2
7. Did you change any of the ways that you provided specialized instruction for your students following the program?	K	1, 2
8. Has the co-teaching professional development experience contributed to your professional knowledge and skill? If so, how would you describe these contributions?	I	1, 2
9. What elements of the professional development program were most beneficial to you? Modeling, feedback and self-reflection, collaboration with your partners, collaboration with teachers from other schools?	K	3
10. What elements of the professional development program were least beneficial to you?	K	3, 4
11. What suggestions do you have for improving the professional development program?	K	3, 4
12. Do you have any other insights or information you would like the researcher to consider?	E	1, 2, 3, 4

Note. O = Opening question; I = Introductory question; K = Key question; E = Ending question

Specialist Focus Group

The specialist focus group protocol gathered data related to the specialists' perceptions of the effects of the professional learning on the teacher participants' knowledge, skills, and efficacy. I explored the specialists' perceptions of the professional development's effect on teachers' knowledge, skills and efficacy related to the use of the station teaching, parallel teaching, and alternative teaching co-teaching models and delivery of specialized instruction.

Questions were developed to investigate the specialists' perceptions of the teacher participants' classroom behaviors following the CTPDP based on their observations of teachers during co-taught instruction. Additionally, the protocol sought to understand the specialists' perceptions and beliefs as they related to what went well in the professional development and what could be altered to achieve increased benefit. The specialist focus group protocol is in Appendix D.

Protocol questions were based on the research surrounding effective co-teaching (L. Cook & Friend, 1995; Friend, 2019; Friend et al., 2010) and effective professional development (Bandura, 1977, 1993; Bates & Morgan, 2018; Desimone et al., 2002; DiPaola & Wagner, 2018; Wenger, 2000). To establish trustworthiness, the focus group protocol was reviewed by a four-person multi-disciplinary panel including representatives with expertise and experience in special education, professional development, and research prior to the implementation of focus group. Table 3 shows the alignment of the specialist focus group questions and the evaluation questions and categorizes the questions by type. Opening questions did not directly inform the study but were presented in order to introduce participants to the structures of the focus group and promote comfort with the environment. Introductory questions were used to support transitioning the participants to different topics throughout the focus group process.

Table 3

Alignment of Specialist Focus Group Questions and Evaluation Questions

	Specialist Focus Group Questions	Type	Evaluation Question
1.	**Tell me about your experiences in building and delivering professional development for teachers.**	O	N/A
2.	**In thinking about the Co-Teaching Professional Development Program, which of the elements of the professional development do you perceive to have been most beneficial to participants? Modeling, self-reflection, collaboration with their partners, collaboration with teachers from other schools**	K	3, 4
3.	**Which elements of the program do you believe were least beneficial to the participants?**	K	3, 4
4.	**In what ways did the professional development effect the teachers' knowledge and efficacy related to co-teaching and using the models to provide specialized instruction?**	K	1, 2
5.	**In what ways did the professional development effect the teachers' work in their classrooms related to the co-teaching models?**	K	1, 2
6.	**In what ways did the professional development effect the participants' work in their classrooms related to the provision of specially designed instruction?**	K	1, 2
7.	**Did you notice the teachers using the co-teaching models to provide specially designed instruction during the classroom observations and feedback cycles you completed following the professional development sessions?**	K	1, 2
8.	**What suggestions do you have for improving the professional development program?**	K	3, 4
9.	**Do you have any other insights or information you would like the researcher to consider?**	E	1, 2, 3, 4

Note. O = Opening question; K = Key question; E = Ending question

Data Collection

Data collection for the program evaluation took place across an extended period. The TSES (Tschannen-Moran & Woolfolk Hoy, 2001) was administered as a part of the program. The pre-administration of the TSES occurred in August and September of 2019, and the post administration occurred in May of 2020, according to the schedule set forth by the program developers.

Focus groups occurred in the fall of 2020, almost a full year after the final face-to-face PD session. The extended period of time between the final PD session and the focus groups provided both potential benefits and potential liabilities for the evaluation. While the long time

period increased the risks to the internal validity of the participants' reporting, it also had potential to provide me with insights as to whether the information and methodologies employed in the program were memorable and meaningful long after the PD occurred.

Survey

The TSES (Tschannen-Moran & Woolfolk Hoy, 2001) was administered electronically through the participants' emails using the Verint: Enterprise Feedback Management system used in OCPS. Although responses were anonymous, the system allowed OCPS to track which participants had not completed the survey through marking each respondent's email address with a non-identifying number. Although OCPS' research department was unable to identify which respondent provided specific responses, it was possible to identify which participants had not responded and to subsequently match the pre- and post-data using the identifying numbers. OCPS followed up with each participant via email to maximize the responses to the survey. Participants completed the survey from their perspectives of their co-taught classrooms and supporting the diverse student populations within those classes. Data from the extant pre-post surveys were used in triangulation with the analysis of the qualitative data collected through the focus groups.

Teacher Focus Groups

Mertens and Wilson (2012) refer to the work of Patton (2008) for sampling in pragmatic program evaluations, indicating that the researcher has a responsibility to collaborate with the program stakeholders to determine which participants would be most beneficial to the study rather than truly randomizing the sample. I used a sampling approach as identified by multiple scholars as an option for mixed methods evaluation designs for the teacher focus group process of the evaluation (Collins et al., 2007; Johnson & Christensen, 2008; Mertens & Wilson, 2012;

Teddlie & Tashakkori, 2009; Teddlie & Yu, 2007). Rather than randomly selecting teacher focus group participants from the entire group of teachers who participated in the program, I reached out specifically to those teacher pairs who attended each of the professional development sessions in their entirety and who remained co-teaching partners throughout the 2019-2020 school year and were still working together for the 2020-2021 school year. The purposeful recruitment of these teachers provided me with access to subjects who had the most thorough and relevant information to inform the study.

To mitigate bias, and to reduce any issues with propriety related to my position in OCPS, focus groups were conducted by a neutral third party who has experience and expertise in research and interview skills. The use of a third-party interviewer increased the likelihood that the teachers and specialists were open and honest in their responses.

Participants were assigned a pseudonym, and responses were transcribed under those pseudonyms to maintain participant anonymity. To facilitate the highest level of convenience for the teachers and specialists and to promote trust and comfort for the individuals participating in the focus groups, the focus groups were conducted virtually through Microsoft Teams. Each focus group lasted approximately 90 minutes, in which the participants responded to a series of open-ended questions designed to record their perceptions of efficacy, skills, and knowledge related to co-teaching and SDI following the CTPDP along with their perceptions of the components of the program which were most and least beneficial and needs for further development. Interview participants were reassured that their responses would remain anonymous in any reporting. Focus group interviews were audio recorded, and the recordings were transcribed using the Dedoose software application. Member checking was conducted to

provide participants with an opportunity to confirm responses or correct errors in the transcription of the interview.

Specialist Focus Group

The specialist focus group questions gathered information on the perspectives of the specialists who designed and delivered the professional development program and who were responsible for supporting teachers' implementation of effective co-teaching practices and content instruction. Given that the specialists regard me as an authoritative figure, the focus group was conducted by a neutral third party who is skilled in research and interview techniques. The participants in the focus group were reassured of their anonymity, and each of their responses were coded using a non-identifying pseudonym in the transcripts. The focus group meetings were audio-recorded and transcribed using the Dedoose software application. Focus group interviews were conducted via Microsoft Teams.

The specialist focus group session lasted approximately 90 minutes, in which the specialists responded to a series of open-ended questions designed to record their perceptions of the teachers' efficacy, skills, and knowledge related to co-teaching and SDI following the CTPDP and their perceptions of the components of the program which were most and least beneficial to the teachers along with needs for further development. Member checking was conducted to provide participants with an opportunity to confirm responses or correct errors in the transcription of the interview.

Data Analysis

Evaluation Question 1

Survey. The TSES (Tschannen-Moran & Woolfolk Hoy, 2001) was used to inform Evaluation Question 1. To evaluate the participants' sense of their own efficacy, skills, and

knowledge of co-teaching, I triangulated the data obtained through the pre/post applications of the TSES with that which was obtained through the teacher focus group and the specialist focus group. The pre/post TSES data were analyzed by OCPS' research department using a paired sample t-test to determine if there was a significant difference in the participants' ranking of their efficacy in key areas which are specifically linked to the proposed benefits of co-teaching before and after the professional development program on the items related to teacher efficacy. In addition, referenced the descriptive statistics derived from the post TSES scores to inform interpretations of the participants' current levels of efficacy related to co-teaching as part of the triangulation of the data.

Teacher and Specialist Focus Groups. Qualitative data from Teacher Focus Group Questions 2, 3, 4, 5, 6, 7, 8, and 12 and Specialist Focus Group Questions 4, 5, 6, 7, and 9 were used to inform Evaluation Question 1. I used cycles of descriptive coding and organization of the qualitative data to synthesize and make meaning of the data to inform the question.

I conducted the first cycle of coding using a priori and emergent coding as described in *The Coding Manual for Qualitative Researchers* (Saldaña, 2016). Initial coding focused on responses related to teacher knowledge and skills. Sub-coding analyzed responses related to co-teaching models and specialized instruction. Table 4 outlines the a priori codes which were used in the qualitative analysis. Throughout this process, I documented emergent codes and themes through the process of analytical memos.

Evaluation Question 2

Teacher and Specialist Focus Groups. Initial coding focused on teacher knowledge and skill in delivering specialized instruction. Subsequent coding focused on a set of a priori sub-codes emerging from the aforementioned code, including meeting students' IEP services,

differentiated behavioral and academic support. Table 4 outlines the a priori codes I used throughout the qualitative analysis. Any emergent codes and themes were documented with analytical memos.

Evaluation Question 3

Teacher and Specialist Focus Groups. Qualitative data gathered through the focus groups with the specialists and the co-teaching pairs were used to inform Evaluation Question 3. Responses to Specialist Focus Group Questions 2, 3, 8, and 9 and Teacher Focus Group Questions 9, 10, 11, and 12 were analyzed using descriptive coding.

Initial coding focused on the successes and challenges of the CTPDP. Subsequent coding focused on a set of a priori sub-codes including modeling, collaboration, systemic application, and reflection and feedback cycles. Table 4 outlines the a priori codes used throughout the qualitative analysis. Emergent codes and themes were documented through analytical memos.

Evaluation Question 4

Teacher and Specialist Focus Groups. Qualitative data from the teacher focus group and the specialist focus group were used to inform Evaluation Question 4. Responses to Specialists Focus Group Questions 2, 3, 8, and 9 and Teacher Focus Group Questions 10, 11, and 12 were analyzed using descriptive coding. Initial coding focused on the needs for future professional development. Table 4 outlines the a priori codes which were used throughout the qualitative analysis. Throughout this process, I documented emergent themes with analytical memos.

Table 4

A Priori Codes for Qualitative Analysis

Evaluation Question	Categories	Codes
1	Knowledge and skills related to co-teaching	Co-teaching models
2	Knowledge and skills related to SDI	Meeting IEP services Specialized behavioral support (SDI) Specialized academic support (SDI)
3	Beneficial elements of the CTPDP Least beneficial elements of the CTPDP	Modeling Collaboration Systematic application Reflection and feedback cycles
4	Needs for future professional development	Time Modeling Collaboration Systematic application Reflection and feedback cycles SDI

Note. IEP = individualized education program, SDI = specially designed instruction, CTPDP = Co-Teaching Professional Development Program

Coding Process

Qualitative data from the teacher and specialist focus groups was analyzed through coding of the focus group transcripts. Saldaña (2016) defined coding as "a heuristic (from the Greek meaning "to discover")—an exploratory problem-solving technique without specific formulas to follow" (p. 8). I transcribed the recordings of the focus groups into transcripts using the Dedoose software application. By applying and then re-applying codes to qualitative data, I was able to make meaning of the synthesized data and derive explanations for those underlying meanings by developing categories and themes from the initial codes (Grbich, 2013; Saldaña, 2016).

To make meaning of the focus group data, I initially streamlined the responses to the interviewer's questions by reading through the transcripts in their entirety and noting any extraneous comments or responses that were not germane to the interviewer's questions. As outlined by multiple scholars, only "the most salient portions" (Saldaña, 2016, p. 17) of the transcripts should be analyzed (Guest et al., 2012; Morse, 2007; Saldaña, 2016; Seidman, 2013). I focused on the participants' responses to those questions previously outlined to inform the evaluation questions, while remaining cognizant of any emergent codes which come forth from the participants' additional responses.

Following the first iteration of descriptive coding, I organized the qualitative data into categories demonstrative of the study's central questions (Anfara, 2008; Saldaña, 2016). I constructed tables to compare and summarize the data gleaned from the initial coding activities (Harding, 2013). The construction and display of data in table form was useful in evaluating and synthesizing the data as it reflected multiple sources through the focus groups (Saldaña, 2016). The coded data from the focus groups was integrated to examine the teachers' sense of efficacy and the perspectives of the teachers and specialists related to the processes and future implementation of the professional development program.

Triangulation

The data gleaned from the analysis of the focus groups was triangulated with the extant teacher pre post survey data provided by OCPS to gain a deeper understanding of the teachers' perceptions of their efficacy, knowledge, and skills, related to the application of co-teaching and SDI in their classrooms following the CTPDP. Using three data sources increased the trustworthiness of my findings. In addition, data from the teacher and specialist focus groups were analyzed in conjunction with one another to compare and confirm individual stakeholders'

reports of effective professional development practices and the outstanding needs and recommendations for future professional learning. Table 5 shows the evaluation questions along with the sources of data and methods of analysis used to investigate each evaluation question.

Table 5

Program Evaluation Questions, Data Sources, and Data Analysis

Evaluation Question	Data Sources	Data Analysis
1. After participating in the professional development program, what are teachers' perceptions of their efficacy to implement the co-teaching models, specifically the station teaching, parallel teaching, and alternative teaching models?	Teacher Sense of Efficacy Scale (Tschannen-Moran & Woolfolk Hoy, 2001) Focus Group with Co-Teaching Pairs; Questions 2–7, 13 Specialist Focus Group; Questions 4–7, 9	Descriptive and inferential statistics. Evaluation of paired t-test results from extant data provided by the District. Qualitative analysis of the responses using a priori and emergent coding to find themes and trends related to *teachers' perceptions of their efficacy, skills, and knowledge related to co-teaching*.
2. After participating in the professional development program, how do teachers perceive their co-teaching classroom practices changed in delivering specialized instruction? What changes in teachers' classroom practice were perceived by the specialists who provided the training?	Specialist Focus Group; Questions 4–7, 9 Focus Group with Co-Teaching Pairs; Questions 3, 4, 6, 7, 13	Qualitative analysis of the focus group responses using a priori and emergent coding to find themes and trends related to the *ways that teachers use co-teaching to provide specialized instruction*.
3. Which elements of the professional development program do the teachers and specialists find to be most beneficial, and which least beneficial?	Specialist Focus Group; Questions 2, 3, 8, 9 Focus Group with Co-Teaching Pairs; Questions 8–13	Qualitative analysis of the focus group responses using a priori and emergent coding to themes and trends related to participants' perceptions of the *most and least beneficial elements of the program*.
4. What suggestions do the teachers and specialists have for improving the quality and activities in the professional development program?	Specialist Focus Group; Question 2, 3, 8, 9 Focus Group with Co-Teaching Pairs; Questions 8, 10–13	Qualitative analysis of the focus group responses using a priori and emergent coding to identify themes and trends related to *participants' recommendations for future professional development.*

Delimitations, Limitations, and Assumptions

Delimitations

Delimitations are decisions made by the researcher that define the scope of the study, including the context of the program and its participants. This program evaluation was conducted within the context of a district initiative in a large suburban school system. The program was designed for a target audience of teachers and administrators engaged with special education programs serving middle and high school students in co-taught learning environments. Although the audience for the secondary CTPDP included school-based administrators and coaches, the study focused on the perceptions of the teacher participants and specialists who designed and delivered professional learning opportunities. Participants in the teacher focus groups were chosen using a purposeful sampling process. I sought out pairs of co-teachers who continued to work in with the same partners and in the same content areas as when they participated in the program to volunteer for the focus groups. This limited the contributions of the participants to a select group.

I did not evaluate the program's impact on student achievement at this time, as those impacts are expected to take longer to become evident. The program is in its first iterations, and it was appropriate to formatively examine the teachers' and specialists' perception data as a means of determining how to continue and expand the programming to best meet the needs of OCPS.

Additionally, due to the closure of schools related to COVID-19, the observation and feedback cycles following the professional development sessions were limited. Because of this, I limited my focus on this component of the CTPDP. Regardless of this unexpected change to the

school year, it was still important to evaluate the short-term implications of the program as co-teaching and the provision of SDI continue to be important focus areas for OCPS in the future.

Limitations

The purpose of this evaluation was to determine whether this program was viable and supportive of OCPS' priorities and initiatives as identified in the inputs, outputs and outcomes of the professional development program. Participants in the program had a wide variety of experience and expertise, which could have introduced extraneous variables that impacted their professional knowledge and growth. It is likely that the special education partners who have completed the required special education teacher certification coursework had a higher pre-existing knowledge and efficacy base than their less experienced or general education counterparts—I crafted questions to discern these participants' perceptions of the impact of the professional development on their current levels of efficacy and skill in co-teaching. By design, this program was influenced by the needs of those in this context and the approach to the evaluation was directed to the expected benefit to context stakeholders. As such, the results of this program evaluation are not intended to be generalized to a larger context or population.

Data collected through focus groups were limited in that it reflects the viewpoints of the teachers and specialists and may have been filtered or skewed by their personal backgrounds, experiences, or perceptions to be non-reflective of the group. The feedback gathered through these processes was delayed from the actual events being described, and may have varied due to that delay, or it is possible that participants in focus groups may have been biased in their responses due to their relationships with or perceptions of the interviewer. In addition, individual participants in focus groups may vary in their ability to articulate ideas and concepts, which could limit the research (Creswell & Creswell, 2018).

A final limitation which must be considered is the COVID-19 pandemic and its effect on the 2019-2020 school year. Upon the Governor's direction, all public and private schools in Virginia were closed, and teachers were prevented from engaging in any face-to-face interactions with students in OCPS from March 2020 through the end of the school year. While teachers continued to engage in distance learning with their students through virtual platforms, the shortening of the school year resulted in decreased time that the co-teaching pairs had to implement instruction following the CTPDP sessions along with a reduction in the opportunities that the specialists had to engage in the observation-feedback cycles which were a planned part of the program.

Assumptions

Assumptions are the elements inherent to a study that are not within the control of the researcher but are assumed to be true to maintain the relevance of the study (Creswell & Creswell, 2018). It was assumed that the extant data provided by OCPS' research department was calculated accurately and depicts the information that it was purported to represent. Additionally, the researcher must assume that the focus group participants were open and honest in their discussions with the researcher and the third-party facilitator.

It was assumed that the professional development that was provided by OCPS was designed to be supportive of adult learners, and that it incorporated components of effective professional development that have been proven through the research to be impactful on producing positive professional growth in participants. It was assumed that the participants in the professional development were invested in improving the outcomes of the diverse learners in their classrooms, and that they saw value in using the co-teaching approaches targeted through the professional development to provide meaningful instruction to their students. It was also

assumed that the program was developed using a model which was conducive to program evaluation, the CIPP model, and that the activities and outputs of the program were aligned in a way that will produce the intended outcomes. It was assumed that the specialists designed and delivered the professional development sessions in a way which reflected best practices in professional development for adult learners and that the resulting sessions were of high quality and value to the participants.

Ethical Considerations

Confidentiality and Anonymity

The Belmont Report (National Commission for the Protection for the Protection of Human Subjects of Biomedical and Behavioral Research, 1979) outlines that a key component of respecting subjects in an evaluation or study is to maintain the participants' confidentiality. Confidentiality is maintained by "collecting, analyzing, storing, and reporting data in such a way that the data cannot be traced back to the individual who provides them" (Mertens & Wilson, 2012, p. 415). Anonymity assures the participants that no unique information which can be traced back to the participants directly, even by the researcher, is connected to the data (Mertens & Wilson, 2012). The teachers' and specialists' responses to the survey and the focus groups were kept anonymous to protect the participants and their positions within OCPS from any scrutiny once the results are compiled.

Positionality

My professional history and role in OCPS are significant limitations of this study. I have worked in the field of special education for 20 years and have experience teaching students with emotional disabilities, learning disabilities, autism, other health impairments, and intellectual disabilities. I have taught in self-contained and collaborative settings across multiple grade levels

and content areas. My own experiences in co-teaching have led me to believe that its success is highly dependent on the partnership elements of the collaborative pairing—specifically, the special education teachers' confidence and efficacy to take the lead in providing special education services and instruction combined with the general education teachers' openness to co-planning and co-delivering instruction.

I hold a senior leadership position with direct responsibility for the supervision and evaluation of many of the professionals who will be accountable for the development and delivery of the program. Additionally, the program's long-term outcomes are intended to address a critical area of my professional purview: reduction of achievement gaps for students with disabilities.

I place a high value on the importance of effective co-teaching to meet the needs of students with disabilities, but acknowledges that previous applications of co-teaching, with the majority of focus on team-teaching and one-teach, one-assist, have not proven effective in closing achievement gaps for students with disabilities. I believe that a major shift in practice must occur in order to provide truly impactful instruction for students. I practiced self-reflection and sought input from neutral parties throughout the program evaluation to mitigate bias associated with my role in OCPS and connection to the subject of the program evaluation.

Mitigating Bias

Given my background and position within OCPS, it was imperative to mitigate bias throughout the analysis of data. Following the focus groups, I conducted member checking by providing the participants with a summary of the discussion. The participants had an opportunity to provide feedback as to whether the summary was an accurate reflection of their input and to provide any additional information or insights that they liked.

Following each iteration of coding, I engaged a peer reviewer to review the researchers' coding and provide additional input and insight to the coding and synthesis of the quantitative data. I also engaged in reflective journaling throughout the coding of the data to acknowledge and reflect upon any reactions or biases which were triggered in the data analysis.

Program Evaluation Standards

Yarborough et al. (2010) as a part of the Joint Committee on Standards for Educational Evaluation developed *The Program Evaluation Standards: A Guide for Evaluators and Evaluation Users* as a resource for evaluators and those impacted by evaluators to outline a set of evaluation standards to serve educational and social improvement. There are 30 individual program standards which are divided in five subgroups including utility, feasibility, propriety, accuracy, and evaluation accountability. The following section outlines those program evaluation standards which are impactful to this study and how each has been addressed in this evaluation.

Utility. At its core, a program evaluation is useful based on the value the program stakeholders get out of its application and results (Yarbrough et al., 2010). This program evaluation explored the participants' perceptions of targeted professional development on their knowledge and efficacy in implementing effective co-teaching and specialized instructional practices to support struggling learners. While it would not be appropriate to use the data from this evaluation to make conclusive decisions regarding the overall worth and outcomes of the program, these data will be useful to the program developers and district leadership as a formative evaluation to strengthen the positive impact of future iterations of professional development programming. The results of the program evaluation will be shared with program developers and key stakeholders as formative feedback to inform future decisions about whether the program is effective and moving the participants toward the intended outcomes. The program

evaluation will assist stakeholders in determining which components of the professional development program are most useful for the participants, and the results of the program evaluation will thereby inform the program developers in their future planning and implementation of experiences for the teachers in OCPS.

Although I had initially considered limiting my qualitative data collection to only the teachers who participated in the program, I realized that it is important to provide all stakeholders with the opportunity to provide input to inform the evaluation. In order to represent all viewpoints, I added data collection through a focus group of the specialists who designed and delivered the CTPDP. By including input from both focus groups, my findings were more reflective of the comprehensive needs of a larger group of District stakeholders.

Feasibility. To be feasible, an evaluation must be able to be completed efficiently and effectively within a given timeframe (Yarbrough et al., 2010). To maintain feasibility, the program evaluation focused on the initial outcomes of teachers' perceptions of their knowledge, skill, and efficacy related to co-teaching and SDI. I sought to answer the evaluation questions through the extant data provided by OCPS combined with qualitative data from teacher and specialist focus groups to gather deeper, qualitative data to fully understand the influence of the professional development program, the program's most and least beneficial components, and the additional needs and recommendations for future opportunities.

To conduct the study in a way that is timely and efficient, I sought the support of OCPS research department personnel for assistance in conducting the focus groups and peer review of any subsequent data analysis. Given the busy schedules of the participants, I sought to gather the most poignant and useful data through the focus groups in the briefest amount of time possible through targeted questioning techniques.

Accuracy and Propriety. Yarbrough et al. (2010) state that "conflicts of interest are inevitable…. Because conflicts of interests are unavoidable, evaluations should try to manage rather than suppress them. Often how conflicts of interests are managed is more important than their mere existence" (p. 145). Since I am an executive leader in OCPS, focus groups were conducted by a neutral third party and I recorded and transcribed the data in a manner that maintained personal anonymity. Focus group participants were assured of confidentiality and provided informed consent to participate in the study. By maintaining confidentiality and limiting the amount of time in which the participants responded directly to me, I decreased the potential for the participants to positively skew their responses and increased the potential for open and honest responses.

It is important that evaluators promote accuracy of data and provide transparent and complete reports of evaluation findings and the limitations of those findings to all program stakeholders (Yarbrough et al., 2010). I addressed this issue by using member checking strategies, peer review of the coding and analysis processes, and consistent note taking and transparent processes during the coding of the data (Creswell & Creswell, 2018).

Implications for Policy, Planning, Leadership, and Equity

This program evaluation has implications in policy, planning, leadership, and equity. Understanding how to provide effective professional learning opportunities and improving the performance of co-teaching pairs to meet the needs of struggling learners is both a professional and moral imperative. Students with disabilities continue to be one of the most under-performing sub-groups of students in public education. Improving achievement of students who receive special education services is a priority for OCPS and a matter of educational equity for all students (DiPaola & Wagner, 2018).

While the outcomes of this evaluation are specific to the context of this particular program and its participants, positive outcomes could have implications for OCPS' policies for planning and providing additional school related leave or in-service days for increased professional learning opportunities. Qualitative data could provide leaders with information to guide future professional learning opportunities that are closely matched to teachers' current needs and preferred learning methodologies.

If the outcomes of the evaluation had indicated that the intensive professional development program did not promote increased use of effective co-teaching processes, division leadership may have determined that additional evaluation is required to assess what types of adjustments to the program would produce more positive results, or if the evidence is that the current expenditure of resources is necessary, or if the same outcomes could be achieved by moving to a more consultative means of special education service delivery with instructional assistants providing classroom based supports.

If the information and outcomes of this program evaluation are meaningful and impactful, this evaluation could inform division leaders in conducting additional evaluations of other programs. I may extend this evaluation further to evaluate the impact of this program and similar programs on administrator capacity and behaviors, student achievement, and even teacher retention.

CHAPTER 4

FINDINGS

The purpose of this study was to investigate teachers' perceptions of their efficacy, skills, and knowledge related to co-teaching and supporting inclusive secondary educational programs following targeted professional development. I sought to determine the activities and program components that were especially supportive of teachers' professional growth and achieving the program's short-term and intermediate outcomes. The questions that guided the program evaluation were:

1. After participating in a professional development program designed for co-teaching effectiveness, what are teachers' perceptions of their efficacy to implement the co-teaching models, specifically the station teaching, parallel teaching, and alternative teaching models?
2. After participating in the professional development program, how do teachers perceive their co-teaching classroom practices changed in delivering specialized instruction? What changes in teachers' classroom practice were perceived by the specialists who provided the training?
3. Which elements of a professional development program designed for co-teaching effectiveness do the teachers and specialists find to be most beneficial, and which least beneficial?
4. What suggestions do the teachers and specialists have for improving a professional development program designed for co-teaching effectiveness?

To answer these questions, I used an evaluation based on the CIPP model developed by Stufflebeam (1983). A Logic Model (see Figure 2) was created which outlines the components of the program based on the CIPP model, and those products which were addressed in this program evaluation. In particular, this evaluation focused on the short-term products of the program, and how the participants in the program perceived that the processes of the program influenced their knowledge, skill, and efficacy in using the different co-teaching models to provide SDI and promote progress for students with disabilities.

Summary of Data Collected

Extant Survey Data

Extant survey data were used to evaluate the program participants' perceptions of their efficacy in implementing the co-teaching models to serve the students in their collaborative classrooms. The program developers issued the TSES in a pre/post fashion to each of the 61 participants in the program. Participants were asked to respond to the survey questions from the perspective of their work in their co-taught classrooms. Pre-surveys were administered in August 2019. Post-surveys were administered in May 2020. Fifty-four of the participants responded to the pre-survey. Thirty-two participants responded to the post-survey. There were 30 matched pre/post responses, representing an even match of 15 special education teachers and 15 general education teachers, and providing a 50% response rate to be used in establishing the quantitative data used to inform Evaluation Question 1.

Focus Group Data

Qualitative data from two separate focus groups were obtained in October 2020. I extended an invitation to each of the 35 teachers who had participated in the CTPDP who were still employed with OCPS and engaged in co-teaching partnerships to participate in the teacher

focus group. An invitation was also extended to the eight specialists who designed and delivered the CTPDP. Six teachers agreed to participate in the focus group which was held October 15, 2020, and conducted by a neutral third party. Eight specialists who designed and implemented the sessions of the CTPDP and who conducted classroom observation and feedback cycles with the participants were invited to participate in a separate focus group. Seven of the eight specialists agreed to participate in the focus group which was held on October 5, 2020, and conducted by a neutral third party.

Data from the focus groups were analyzed using the coding process outlined in Chapter 3. In addition to the a priori codes which were outlined in Table 4, I identified several emergent codes including administrator support, consistency, intentionality, subordinate role, and virtual application. Data from a priori code analysis and emergent code analysis was used to inform Evaluation Questions 1, 2, 3, and 4. Table 6 provides the general codes and emergent themes derived from data analysis.

Table 6

Coding and Themes Derived from Qualitative Analysis

Evaluation Question	Categories	Codes	Themes
1	Knowledge and skills related to co-teaching	Co-teaching models* Consistency** Administrator support** Subordinate role** Virtual application** Intentionality**	Teachers perceive themselves to have general knowledge, skill, and efficacy
2	Knowledge and skills related to SDI	Meeting IEP services* Specialized behavioral support (SDI)* Specialized academic support (SDI)* Intentionality** Virtual application** Administrator support**	Increased awareness and intentionality, need for specific strategy and methods.
3	Beneficial elements of the CTPDP Least beneficial elements of the CTPDP	Modeling* Collaboration* Systematic application* Reflection and feedback cycles*	Collaboration and modeling emerge as most beneficial elements Growth opportunities in differentiation, structure, and reflection and feedback cycles
4	Needs for future professional development	Time* Modeling* Collaboration* Systematic application* Reflection and feedback cycles* SDI* Participant buy-in Virtual Application**	Self-selection to participate builds connection Observation, feedback, and reflection cycles build knowledge and skill Attention to organization and scheduling

Note. SDI = specially designed instruction; IEP = Individualized Education Program; CTPDP = Co-Teaching Professional Development Program
*A priori
**Emergent

As described in Chapter 3, I intentionally omitted unrelated responses and extraneous comments from the focus group responses as a part of the coding process. As such, the included quotes from the focus group participants do not include utterances such as “um” or “so,” which were inconsequential to the meaning of their statements.

Evaluation Question 1. After participating in a professional development program designed for co-teaching effectiveness, what are teachers' perceptions of their efficacy to implement the co-teaching models, specifically the station teaching, parallel teaching, and alternative teaching models?

Evaluation Question 1 was addressed by examining the extant data from the TSES (Tschannen-Moran & Woolfolk Hoy, 2001) along with qualitative data derived from the teacher and specialist focus groups. Data collected through the survey and focus groups demonstrates that the teachers feel generally knowledgeable and efficacious in using the co-teaching models, but that there are opportunities to increase the consistency and specificity of their use.

General Knowledge, Skills, and Efficacy

Extant Survey Data. The program developers used the TSES (Tschannen-Moran & Woolfolk Hoy, 2001) to gain understanding of the participants' efficacy related to their co-teaching practices. The survey was delivered as a pre-post assessment. After participating in the program, teacher participants indicated moderate levels of efficacy in co-teaching, however the survey data did not support that there was a significant change in their levels of efficacy from before to after the program's implementation. Program participants were asked to answer the following TSES (Tschannen-Moran & Woolfolk Hoy, 2001) questions as they related to their experiences and perceptions regarding their practices specifically in their co-taught classes.

Tables 7 and 8 show the overall results by question and overall, to the pre- and post-survey responses. Listed below are the 24 questions which coincides with the question numbers in Table 7. Over the 24 efficacy questions in the survey, 67.8% responded with *Strongly Agree/Agree* indicating that they perceived themselves as having high efficacy and skill when considering their practices in their co-taught classrooms.

When responding to questions related to establishing classroom management systems to support groups of students' specific needs, 73.3% of respondents indicated *Strongly Agree/Agree*. Furthermore, 70% responded *Strongly Agree/Agree* to both the questions which investigates teachers sense of ability to adjust lesson development to students' individual needs and to establish routines and activities to support learning in co-taught classrooms, 63.3% of teachers responded *Strongly Agree/Agree* that they perceived themselves able to use alternate strategies in their co-taught classrooms.

The teachers' responses to Questions 1, 4, and 13 indicated areas that should be targeted as opportunities for growth. These items specifically relate difficult and challenging students with low interest and who demonstrate problematic behaviors such as failing to follow classroom rules.

1. I can get through to the most difficult students.
2. I can help my students think critically.
3. I can control disruptive behaviors in my classroom.
4. I can motivate students who show low interest in school work.
5. I can make my expectations clear about student behavior.
6. I can get my students to believe they can do well in school work.
7. I can respond to difficult questions from my students.
8. I can establish routines to keep activities running smoothly.
9. I can help my students' value learning.
10. I can gauge students' comprehension of what I've taught.
11. I can craft good questions for my students.
12. I can foster student creativity.
13. I can get children to follow classroom rules.
14. I can improve the understanding of a student who is failing.
15. I can calm a student who is disruptive or noisy.
16. I can establish classroom management systems for each group of students I teach.

17. I can adjust my lessons to the proper level for individual students.
18. I can use a variety of assessment strategies.
19. I can keep a few problem students from ruining an entire lesson.
20. I can provide alternative explanations or examples when students are confused.
21. I can respond well to defiant students.
22. I can assist families in helping their children do well in school.
23. I can implement alternative strategies in my classroom.
24. I can provide appropriate challenges for very capable students.

Table 7

Overall Pre-Test Results (n=30)

	Strongly Agree/ Agree		Somewhat Agree/ Somewhat Disagree		Strongly Disagree/ Disagree	
Statement	*N*	*%*	*N*	*%*	*N*	*%*
1.	14	46.7%	16	53.3%	0	0.0%
2.	20	66.7%	10	33.3%	0	0.0%
3.	20	66.7%	9	30.0%	1	3.3%
4.	15	50.0%	15	50.0%	0	0.0%
5.	27	90.0%	3	10.0%	0	0.0%
6.	23	76.7%	7	23.3%	0	0.0%
7.	24	80.0%	6	20.0%	0	0.0%
8.	26	86.7%	4	13.3%	0	0.0%
9.	24	80.0%	6	20.0%	0	0.0%
10.	23	76.7%	6	20.0%	1	3.3%
11.	23	76.7%	7	23.3%	0	0.0%
12.	21	70.0%	9	30.0%	0	0.0%

Statement	Strongly Agree/ Agree		Somewhat Agree/ Somewhat Disagree		Strongly Disagree/ Disagree	
	N	*%*	*N*	*%*	*N*	*%*
13.	24	80.0%	6	20.0%	0	0.0%
14.	24	80.0%	6	20.0%	0	0.0%
15.	17	56.7%	13	43.3%	0	0.0%
16.	20	66.7%	10	33.3%	0	0.0%
17.	14	46.7%	16	53.3%	0	0.0%
18.	24	80.0%	6	20.0%	0	0.0%
19.	18	60.0%	12	40.0%	0	0.0%
20.	27	90.0%	3	10.0%	0	0.0%
21.	17	56.7%	13	43.3%	0	0.0%
22.	17	56.7%	13	43.3%	0	0.0%
23.	21	70.0%	9	30.0%	0	0.0%
24.	21	70.0%	9	30.0%	0	0.0%
Overall	504	70.0%	214	29.7%	2	0.3%

**Note.* Overall is a sum of the 24 questions (n=720). TSES = Teacher Sense of Efficacy Scale

Table 8

Overall Post-Test TSES Results (n=30)

Item	Strongly Agree/ Agree		Somewhat Agree/ Somewhat Disagree		Strongly Disagree/ Disagree	
	N	*%*	*N*	*%*	*N*	*%*
1.	16	53.3%	14	46.7%	0	0.0%
2.	19	63.3%	11	36.7%	0	0.0%
3.	20	66.7%	10	33.3%	0	0.0%
4.	15	50.0%	15	50.0%	0	0.0%
5.	25	83.3%	4	13.3%	1	3.3%
6.	24	80.0%	6	20.0%	0	0.0%
7.	23	76.7%	7	23.3%	0	0.0%
8.	21	70.0%	8	26.7%	1	3.3%
9.	20	66.7%	10	33.3%	0	0.0%
10.	23	76.7%	7	23.3%	0	0.0%
11.	21	70.0%	9	30.0%	0	0.0%
12.	19	63.3%	11	36.7%	0	0.0%
13.	16	53.3%	14	46.7%	0	0.0%
14.	22	73.3%	8	26.7%	0	0.0%
15.	16	53.3%	14	46.7%	0	0.0%
16.	22	73.3%	8	26.7%	0	0.0%
17.	21	70.0%	9	30.0%	0	0.0%
18.	20	66.7%	9	30.0%	1	3.3%
19.	18	60.0%	12	40.0%	0	0.0%
20.	25	83.3%	5	16.7%	0	0.0%
21.	21	70.0%	9	30.0%	0	0.0%
22.	19	63.3%	11	36.7%	0	0.0%
23.	23	76.7%	7	23.3%	0	0.0%
24.	19	63.3%	11	36.7%	0	0.0%
Overall	488	67.8%	229	31.8%	3	0.4%

Note. Overall is a sum of the 24 questions (*n*=720). TSES = Teacher Self Efficacy Survey

To examine the impact of the program on teachers' efficacy in co-teaching, a paired-samples t-test was conducted to compare the participants responses prior to participating in the program and after participating in the program. There was not a statistically significant

difference in the scores for pre-survey (M = 147.93, SD = 16.34) and post survey (M = 150.57, SD = 17.74) conditions; $t(29) = -0.779$, $p = 0.442$. The pre-post survey results showed that following the PLC, there was no significant change in the teachers' knowledge, skills, and efficacy as indicated by their TSES scores. Table 9 represents the paired t-test results from the data analysis that was conducted by OCPS.

Table 9

Results of t-Test and Descriptive Statistics From Extant Pre/Post-Test Data

	Pre-Survey		Post-Survey			95% CI for Mean Difference			
Outcome	*M*	*SD*	*M*	*SD*	*n*			*t*	*df*
	147.93	16.34	150.57	17.74	30	-9.55	4.28	-0.779	29

*p<.05

Teacher Focus Group. Teacher Focus Group Questions 2, 3, 4, 5, 6, 7, and 13 were used to inform Evaluation Question 1. Although data from the survey did not signify a significant change in teachers' perceived efficacy in co-teaching following the CTPDP, findings from the teacher focus group indicated that their participation in the program made an impact in their perceptions and practices. When the teachers were asked if they changed any co-teaching approaches in their classrooms based on their learning from the program, 5 out of 6 (83%) participants indicated that they had. One participant stated that the program "shifted [my] mindset into seeing how the two roles [general education and special education] coincided in the classroom." Another teacher stated, "the cohort encouraged us to look at other things and increase our station teaching." One teacher stated "[the program] allowed my co-teacher and I to talk more about how and be more intentional about when we use the models…. I think before we were just checking off a box."

Similarly, 5 out of 6 (83%) teacher respondents indicated comfort in using the parallel teaching, station teaching, and alternative teaching models of co-teaching; 4 out of 6 (66%) indicated that participation in the CTPDP influenced their willingness to use the different models, though the pre-post survey results did not show a significant change in teacher efficacy following the program. In particular, being able to talk to other teachers who had used the models in their own classrooms increased the teachers' willingness to try the different models themselves. Some examples of participants' statements which indicated their comfort in using the different co-teaching models are below.

- I felt more comfortable with using the [parallel teaching] model once I got more input from other teachers that did utilize it.
- I'm able to help my department…because most gen ed teachers are not familiar with these models…they need to see it in action.
- Station-teaching is phenomenal. It is really effective if the co-teachers are on the same page.
- We try out different models and I've been working with the different parallel and station structures…
- We do alternative teaching like a pro!
- Station teaching is my favorite…the kids can see things multiple ways and work through everything with us.

When asked, "Do you think the co-teaching strategies that you are using are effective in educating the students with disabilities in your classroom?" each of the teachers participating in the focus group indicated agreement. The teachers made statements such as:

- I do think so…we don't just implement them for students with IEPs, we implement them for all kids…. they're [the strategies] effective across the spectrum.
- I think that if you use the models when they are appropriate, then yes, they are very beneficial to the students. For instance, I mentioned earlier that we like to use station activities for the students to get to practice, but it also gives us a chance to work with the students in smaller groups which means they get closer to one-on-one instruction which helps them improve their performance.
- I feel like parallel teaching is great if you have a whole group thing you want to deliver….I think having the most knowledge of the different strategies and figuring out how to keep kids engaged is the best thing to do.

In responding to the question about the effectiveness of co-teaching strategies in educating students with disabilities, four out of six teachers made specific statements regarding the impact of consistency in co-teaching partners. The teachers indicated that having consistent co-teaching partners increased their ability to work as equal partners in the classroom and successfully use the different co-teaching models. "The longer you have a good teaching pair together, the more things change" was a statement which was concurred with by all teacher focus group members. One teacher participant indicated that consistency in co-teaching partners contributed to having the special education teacher and general education teachers assume equal roles in the classroom:

> I cannot imagine someone who hasn't been there [teaching] with their partner for a long time having the confidence to say this is something that needs to be done, and that it needs to be done in this way…Starting with somebody new each year is not ideal.

One co-teaching pair indicated that their time together was what promoted their comfort in using the different co-teaching models, “Really, after our third year was when we became comfortable, and now we do a lot of station teaching and parallel teaching.” Another participant noted, “Consistency is key.” All other focus group members indicated agreement with this statement.

The teachers reiterated that special education teachers often assume subordinate roles in co-taught classrooms. Teachers made statements such as “It’s really easy in the [exceptional education] world to be number two,” and “most of the ExEd [exceptional education] teachers are not as familiar with teaching the leader or are uncomfortable.” General education teachers in the focus group who had previous experience as special education teachers expressed comfort and willingness to use the co-teaching models in their current classrooms. “I was an [exceptional education] teacher before, and I kind of came into it like ‘I’m not going to be anybody’s aide.’ I tell my current co-teacher that; we are a $100,000 classroom.”

Specialist Focus Group. Specialist Focus Group Questions 4, 5, 6, 7, and 9 were used to inform Evaluation Question 1. When the specialists who participated in the focus group were asked, “In what ways did the professional development effect the teachers’ work in their classrooms related to the co-teaching models?” one specialist provided the following response, to which each of the other specialists indicated agreement:

> [The teachers] put more of a focus on their planning and how they were delivering the different models as well as using each other for different ideas. Instead of relying on only one model (i.e., in the past it was team teaching standing at the front of the classroom). I think the knowledge that it’s okay to use the different models, as well as when it’s an appropriate time to use the other models put a more purposeful focus on how they could

> tap into their class and build upon the strengths and weaknesses of their students as well as each other.

Although the specialists agreed that the participants had more knowledge about how the co-teaching models could be used, they did not believe that the models were being consistently or widely used in the classrooms. One specialist noted,

> I wish we could have gotten into more classes. The few I did get into; I was disappointed I didn't see a lot of what we worked on. There were some elements, but for the most part, it was a traditional classroom.

Five out of seven specialists in the specialist focus group indicated that they were more likely to see special education teachers take on an assistant role during their classroom observations. One observed, "They were getting to a place where they could write about [co-teaching models] in their lesson plans, but then, in the actual execution of it, we were still seeing the [special education] teacher not as engaged in certain things."

The specialists made statements to indicate that they believed there may have been some characteristics of the participants and variables which appeared to increase teachers' skill and willingness to use the co-teaching models in their classroom and which promoted their active participation in the program. All the specialists indicated that consistency in co-teaching partners across multiple years supported the teachers' knowledge and skill development in co-teaching. Additionally, the specialists believed that the middle school participants were more open and willing to try new practices and demonstrated more of the targeted skills during their observations. According to one specialist, this may have been due to the school-based administrators' attitudes and support of co-teaching in the middle schools, stating "The flexibility of teachers being allowed to try new things and take risks without the fear of penalty

or eyes on them is key because these are new strategies, most general education teachers are not familiar with them." To which statement, another specialist agreed, "Admin support makes the world go around!"

Triangulation. Results gleaned from the extant survey data, teacher focus group, and specialist focus groups demonstrate that the teachers perceive themselves to have general knowledge and skill in co-teaching and using the different co-teaching models. The teachers' responses in the extant survey data align with their responses from the teacher focus group, indicating that the teachers perceive that they have knowledge and skill in co-teaching and using the different models in their classrooms. High survey responses related to classroom systems, routines and activities, lesson adjustment, and the use of alternative strategies in co-taught classes reflect the teachers' general perceptions of efficacy. The specialists also supported the results that the teachers perceive themselves to have knowledge and skill in co-teaching; however, results from the specialists' focus group show that while the teacher participants were better able to talk about the co-teaching models and their specific uses for instruction, this knowledge did not always carry over into classroom practices.

Although not established as an a priori code for qualitative analysis, consistency emerged as a central concept in both the teacher and specialist focus groups. Both teachers and specialists indicated a belief that maintaining consistent co-teaching partners across multiple years increases the teachers' knowledge, skill, and efficacy in co-teaching. Both the teachers and specialists agreed that consistency in co-teaching partners increased teaching pairs' willingness to try new things and confidence in their approaches.

Evaluation Question 2. After participating in the professional development program, how do teachers perceive their co-teaching classroom practices changed in delivering specialized instruction? What changes in teachers' classroom practice were perceived by the specialists who provided the training?

Qualitative findings from the Specialist Focus Group Questions 4, 5, 6, 7, and 9 and Teacher Focus Group Questions 3, 4, 6, 7, and 13 were used to inform Evaluation Question 2.

Awareness and Intentionality, Need for Specific Strategies and Methods

Teacher Focus Group. Findings from the focus groups suggest that the teachers perceived that they became more intentional in the planning and application of SDI after participating in the CTPDP. Five out of six teachers indicated that they believed their participation in the CTPDP impacted their practices as related to SDI. Teachers made statements such as

- I used to pull kids out a lot. We have a lot of kids who require direct instruction, and now I am able to give them SDI in the room using station teaching or alternative teaching.
- Now I feel like I am the specialist, providing the students with the SDI that they need.
- I am helping my department as a model, because when they need to embed SDI in their lesson plans, they need a place to see it in action.

When asked how participation in the program had impacted their practices in providing specialized instruction for students in their co-taught classrooms, many of the teachers' responses centered around intentionality and documentation. Each of the six teachers who participated in the focus group indicated that they had increased their documentation practices related to SDI as a result of participating in the program.

- One thing I changed was making sure it was in my lesson plan, and that is something in my department now that is a requirement to have the SDI and specifically name what they are and who they are providing it for so that we are intentional about what we are doing.
- I feel like the main thing that changed with mine is the detail added to the lesson plans with the specific SDI that was offered to each student. The documentation of what we were already doing and putting in the names of the students and what they were doing.
- Specialized instruction did change in that I am taking a more technical approach.
- Through the cohort, we did learn better ways to document.
- I will say that we documented more.

Responses to questions about how participation in the CTPDP changed teachers' practices for delivering SDI in their co-taught classrooms were typically general and did not give specific examples of the strategies and methodologies that the teachers used to support their students' individual needs. Statements such as those highlighted in the following list show that the teachers gave general affirmations that they provided SDI for students but did not elaborate with details or specific examples.

- We have a lot of kids who have a lot of direct instruction minutes in the IEP, so I have done a lot of small group and deliver a lot of SDIs during that time.
- I will pull kids to a different link and I will teach the same topic but just deliver it in a different way so that they can understand it.
- I make sure services were being provided to the special education students. I keep up with their progress and make sure that all accommodations are being met. making

sure that I was well aware of the individual circumstances of each student, their plans. Making sure the services are being provided.

When the teachers did provide specific examples of practices which they embedded in their classrooms to meet students' special education related needs, the examples tended to be accommodations designed to increase accessibility, not instructional strategies designed to promote progress to students' disability related needs.

- We've been using the alternative teaching methods for when to do modifications like shortened length essays or graphic organizers or read aloud.
- More visuals or use a different type of shorter text to teach the strategy, but the same thing that is going on in the larger group.
- Whether it's colored notes, different strategies, little hints and strategies that may be useful for them.
- I may provide them with color coded notes or different strategies or ways of seeing things.
- We can provide them with notes or whiteboards or coordinate plane paper and they can use at that station. Any manipulatives we want to allow them to use, like maybe a compass or something, one station can do construction.

Only one teacher in the focus group made a specific reference to targeted academic programming or lesson delivery in response to these questions. "I like to use Orton Gillingham reading strategies, and I can embed those in my teaching along with other SDI." Four out of six teachers who participated in the focus group referenced that behavior management was an added benefit of co-teaching, however the teachers did not make specific references to following students' behavior intervention plans or addressing behavior goals in students' IEPs. Continued

focus on specific strategies and methodologies which provide evidence-based approaches for addressing students' special education needs appears to be a continued need for the teachers.

Specialist Focus Group. Findings from the specialist focus group were also used to inform evaluation question two. When asked in what ways the program effected the teachers' knowledge and efficacy related to using the co-teaching models to provide specialized instruction, the specialists concurred that increases in knowledge and understanding of SDI was a significant outcome of the CTPDP for the teachers. Seven out of seven specialists who participated in the focus group made statements that indicated teachers changed their practices in their awareness and documentation of SDI following the CTPDP.

- SDI was a huge plus! They came in weak and by December, they truly understood how to write these now.
- Huge growth at the beginning, more knowledge based and then morphed into more application based as we moved through the different program meetings.
- Now, they are serving as leaders not only within their school, but within the division, too. Especially for new teachers or other pairs who weren't able to participate who needed guidance on what SDI looks like in a lesson plan or how to do it in a co-teaching environment.
- [The program] helped to grow the expectation that we want to see SDI when we are spending a whole period in a classroom.

However, when the specialists were asked if they noticed the teachers using the co-teaching models to provide SDI during the observation and feedback cycles the specialists completed following the PD sessions, the answers were less positive indicating that while the teachers may have gained more knowledge and understanding about the expectations for SDI

and how to document their plans for SDI, that knowledge and understanding did not always carry over into classroom application.

- Minimally.
- Depends on the teacher. The [school name] group; they were working it. They understood. They were ahead of everyone else whereas the rest of them, I would say no.
- I saw more people trying to do the co-teaching model, but I still didn't see any SDI increasing because of what we did. They still didn't quite get that concept.
- We went to a certain high school every other week, and we may have seen [SDI] once or twice.

Evaluation Question 3. Which elements of a professional development program designed for co-teaching effectiveness do the teachers and specialists find to be most beneficial, and which least beneficial?

Collaboration and Modeling Emerge as Most Beneficial Elements.

Teacher Focus Group. Qualitative findings from Teacher Focus Group Questions 2, 3, 8, and 9 were used to inform Evaluation Question 3. The teachers were asked to comment on which elements of the CTPDP were most beneficial. Data were coded using a priori codes established upon the research surrounding effective professional development which aligned with the stated intentions of the program developers. Collaboration was coded 15 times in the teachers' responses, followed by modeling, which was coded 5 times, reflection and feedback cycles was coded 5 times, and systematic application was coded once.

Collaboration. The opportunity to collaborate with their own co-teaching partners, along with co-teaching pairs from other schools with similar student demographics was consistently put forth by the teachers as the most beneficial element of the CTPDP.

- The opportunity to work with my collab partner was really great, because it is not often that we truly get that time even though it is supposed to be built into our schedule.
- I'm glad I went through this experience with my collab partner, because it allowed me to see in a practical way what we need to do when we are working with "Little Johnny."
- It was great to see what other people were doing at the other locations because I could put it to work in my own classroom.
- I liked the collaborative time with my own partner, and the ability to say, "Hey, we just heard about that. How do we think it applies to our classroom, and how can we turn it around?"
- It was nice to hear different teachers' approaches; especially from someone you don't get to talk to every day.
- I got to hear from other professionals and colleagues, and bounce ideas. That was a great part.

***Modeling*.** Modeling also emerged as beneficial based on the teachers' responses. In response to the questions about which elements were most beneficial, five out of six teachers made explicit statements supporting modeling. "Modeling, seeing what it should look like, and the realistic collaboration of how we can make it work" was beneficial. Another teacher reiterated

> The modeling piece was very well [done] too. There were certain times when we were taken through stations and to see that model was beneficial. I just know that when I was sitting there, and they led us through and modeled…I saw how they were teaching us how to transition or how to get students to work collaboratively in individual groups.

The teachers indicated that modeling supported their application of the skills covered in the CTPDP in their classrooms. "Watching other people put things into practice, and then to go back with [my colleague] and put those things into practice was really cool."

Reflection and Feedback Cycles. Four out of five teachers responded that the opportunities for reflection and feedback that were part of the program were beneficial to their professional growth. One teacher stated that the time allocated for reflection allowed her to incorporate the new learning into lesson planning for future classes: "You go through whatever the session is about, it's fresh in your head, and then this is what [we] have coming up, how can we apply this [to] our next lesson?" A second teacher in the focus group said that the reflection opportunities provided him time to work with his co-teacher and consider how the processes and new learning could be applied with individual students or particular groups of students: "It allowed me to see in a practical way what we need to consider when working with 'little Johnny,' or this is what we will consider when we have this group of students come to us." A third teacher responded that the program helped them to "reflect on lesson plans more often to include things we were doing and to go back and include things we didn't think of when we were creating the plan." A final statement appeared to sum up the responses for all the teachers participating in the focus group. "It [the reflection time] allowed my co-teacher and I to talk more about how to be more intentional about when we use the models."

Specialist Focus Group. Qualitative data gathered from the specialists' responses to Focus Group Questions 3, 4, 6, 7, and 13 were used to inform Evaluation Question 3. The specialists were asked to comment on which elements of the CTPDP they found to be most beneficial. Data was coded using a priori codes established upon the research surrounding effective professional development which aligned with the stated intentions of the program developers. Collaboration was coded 8 times in the specialists' responses, followed by modeling and reflection and feedback cycles which were each coded once in the specialists' responses.

When the specialists were asked about what elements of the program, they perceived to be most beneficial to the teachers, their responses centered around the concepts of modeling and collaboration.

- Collaboration with their partners, but also collaboration with other schools.
- Modeling. It was beneficial for them to see what it looked like in order to collaborate with their partners and with other schools.
- The partners having a set amount of time to collaborate with their actual partner and then also being able to see how other partners are working at other schools and bring that into what they are doing was beneficial.
- The most effective meeting we had was when we showed a video of our [school name] co-teaching math pair's classroom. They could see the video and then talk about it. See what it looked like and how it worked.

Growth Opportunities in Differentiation, Structure, and Reflection and Feedback Cycles

Qualitative data from the teacher and specialist focus groups was analyzed using a priori codes established through the review of the literature related to effective professional development.

Teacher Focus Group. Teachers' responses to Focus Group Questions 8, 9, 10, 11, 12, and 13 were used to gather information about which program elements the teachers found least beneficial. When asked which elements of the program were least beneficial, 4 of the 6 participants in the focus group indicated that they perceived that the program content could have been more differentiated and planned to be more engaging.

- I think there was a plan that was established and there was no adjustment to the plan. There was no, you guys already know this so let's get something you don't know and present it. It was more like I prepared this lesson, y'all going to see this lesson today.
- When the primary focus of the session for that day was just a PowerPoint, that was when I was like, "ugh."
- I think a lot of the times when we were given literature to read and then just expected to digest that and not really talk about it, or just hear other people talk about it, I just glaze over.
- When people just put something up on a PowerPoint and would talk through it, I zoned out. I got on my phone, I got on my laptop. I started doing grades.

Five out of six of the teachers also indicated that they believed that the self-reflection component of the PD sessions could have been more developed. One stated, "The self-reflective piece could be worked on more. It just came in the form of, 'hey guys, fill out this form before you leave.'" A second teacher responded to this statement with "It felt like we were in school again and they give us homework to do. I know it was just reflecting, but I'm just going to speak for myself, when I leave outside that door…I put it aside."

Two teachers gave responses that centered around time commitment and the scheduling of the program to which each of the other participants indicated verbal agreement.

- This isn't necessarily an aspect of the program but pulling two teachers out of their classroom during the school day was frightful sometimes.
- I can't make a good choice between that [meeting during the school day] and doing it after work…it's kind of a Sophie's choice. And I certainly wouldn't want it before school…I don't know if I have a suggestion for improvement, but I will agree, it's tough.

Specialist Focus Group. Specialists' responses to Focus Group Questions 2, 3, 4, and 9 were used to gather information about which program elements the specialists perceived to be least beneficial. When asked which elements of the program were least beneficial, the initial responses centered around self-reflection and feedback. Each of the seven specialists participating in the focus group indicated agreement that the reflection and feedback cycles were not adequately developed, and thereby less beneficial than they might have been. One specialist stated "I don't think we embedded self-reflection, and they were left to do that on their own. I think it was least effective, but it's because it wasn't developed completely." The other participants in the focus group indicated agreement with that statement.

Although the specialists touted collaboration between the co-teaching partners and the co-teaching pairs from other schools as a beneficial component of the program, there was also an expression that some partners benefited more from the collaborative component than others.

- Collaboration with teachers from other schools wasn't always beneficial. They would say, "Yeah, but in MY school…" They didn't completely understand why they were conferencing with others.
- Middle school benefited more than high school from their counterparts. High school teachers are islands.

- Middle school teams were much stronger in terms of how they grew together.
- Middle school was more receptive to learning and trying new things.

Evaluation Question 4. What suggestions do the teachers and specialists have for improving a professional development program designed for co-teaching effectiveness?

Both the specialists and the teacher participants concurred on the need for further professional development. Qualitative data from Teacher Focus Group Questions 8, 10, 11, 12, and 13 and Specialist Focus Group Questions 2, 3, 8, and 9 were used to address Evaluation Question 4

Self-Selection to Participate Builds Connections

Teacher Focus Group. One theme which emerged from the findings of the teacher focus group was that the participants who self-selected to be part of the program felt more connected and perceived the program to be more beneficial. Half of the teacher respondents who participated in the focus group indicated that they were unaware how they were selected to be participants in the program, and that they felt that they already had a solid understanding of the content of the professional development program before they were required to participate in it. One teacher participant indicated that she quit attending the PD sessions because of her frustration.

> I didn't finish the program because I was frustrated with the lack of content that I was receiving and feeling like I was missing out on three of my collab classes each time there was one of these trainings…. But I think that was just an issue with me. I don't know how I was picked to be a part of it. But if I had known what the program had been about when I started, I don't think I would have signed up for it. If it had been structured differently or had a different level of things being offered then I probably would have, but

> the way it started last year was not something that was giving anything new to my teaching practices or for my students.

Another teacher participant indicated that he felt that the CTPDP would have been more beneficial for new teachers, and that the information was basic. He suggested that the content should have been more differentiated to meet the individual needs of the participants.

> I think there was a plan that was established, and there was no adjustment to the plan. There wasn't no like [oh my gosh] you guys already know this so let's get something you don't know and present it. It was more like I prepared this lesson, y'all going to see this lesson today. I don't think the selection process, I think you needed warm bodies in the room and I was willing. more like forced, to be that body. Instead of, I don't know the criteria of selecting people. I'm not one to judge, but there were newer people in the building who would have benefited more.

Specialists Focus Group. Seven out of seven of the specialists indicated agreement that there appeared to be a marked difference between the participants who had chosen to be part of the program in contrast to those who had been selected to participate in the program by their school-based administrators. "We saw a big difference between the pairs that truly wanted to participate and those who were forced to be there." Another specialist stated, "who the pairs of teachers were really made a difference. Their desire to participate really determined how much they got out of it."

Observation, Feedback, and Reflection Cycles Build Knowledge and Skill

Both the specialists and the teachers believed that while modelling and opportunities for collaboration were among the most beneficial elements of the CTPDP, there were opportunities

to build upon the observation, feedback, and reflection components of the program to increase its impact on teacher practice.

Teacher Focus Group. Each of the teachers who participated in the focus group indicated that the opportunities for reflection and feedback were beneficial for their professional growth but stated that those components of the program needed to be strengthened and delivered in a more systematic manner. The teachers made statements such as

- That [reflection practices during the sessions] was definitely great. You go through whatever the session is about, it's fresh in your head, and then this is what have coming up, how can we apply this our next lesson, or how can we apply this to a lesson down the road and what would that look like in our classroom? That was very beneficial.
- It was good, reflecting on lesson plans more often to include things we were doing to include things we didn't think of when we were creating the plan.
- The reflection activities allowed my co-teacher and I to talk more about how and be more intentional about when we use the models.

Although they recognized the benefit of the observation, feedback, and reflection components, the teachers indicated that those were areas of growth for future professional development, and that they could be implemented more systematically. Although they were intended to be an embedded component of the program, the observation and feedback cycles were impeded by the closure of schools related to COVID-19. One teacher participant made a statement that he wished that the observation and feedback cycles had been more developed and able to be carried out in their entirety. "I think the follow up to the feedback we got during

observations would have been helpful." Each of the other focus group participants indicated agreement with that statement.

Specialists Focus Group. The specialists who participated in the focus group, and who developed and led the PD sessions saw that the observation, feedback, and reflection components of the program were beneficial to the participants and also beneficial to their own professional growth. "By going together and observing, we could give each other feedback about what we saw and then morph that into feedback not only for the teachers but for admins as well." However, the specialists believed that the reflection and feedback cycles needed to be better developed and implemented more systematically.

The specialists also made statements to indicate their belief that the closure of schools negatively impacted their ability to support the carry through of the practices supported by the program:

> If COVID hadn't happened, we would have had a lot more time to go back in after giving the initial feedback from our initial observations and this is what we want to see the next time we come in, we would have made a lot more progress.

Another specialist said,

> I wish we could have gotten into more classes.…If we had been able to go in a second time, I think we would have seen more. Only the short amount of time we were able to spend in the class hurt us.

One specialist made a recommendation for future program development that she believed would increase the effectiveness of the observation and feedback cycles, and address some of the concerns that the teachers expressed related to the time commitment involved in being part of the CTPDP. She recommended that sessions be held every other month in person with an

observation cycle in between to focus on whatever was presented and give meaningful feedback in order to prepare to meet again based upon what we have been able to see or not see in the actual classrooms. This statement was met with agreement by each of the other specialists who participated in the focus group.

Attention to Organization and Scheduling

Time and systematic application were coded nineteen times in the focus group responses regarding the least beneficial elements of the program and needs for future professional development.

Teacher Focus Group. The teachers, in particular, indicated that reevaluating the time requirements and the program schedule would be important considerations for future program development. Each of the teacher respondents indicated agreement that they believed that the time commitment to the program was intensive, and that they feared that the time away from their classrooms could have had a negative impact on student achievement.

- I think I was a little taken aback by the frequency of the meetings. I thought there was some important information shared, but I think it was once a month. It seemed like I knew how important it is to have a good collaborative relationship, but there was a lot on our plate when all that was going on.
- This isn't necessarily an aspect of the program but pulling two teachers out of their classroom during the school day was frightful sometimes.
- We always missed the actual class. And so that class would be behind the other classes being we are on block scheduling. So, missing that group of kids for me, I felt like it was missing something.

- I did feel like it took a lot away from the class. I don't think there was a better solution to how it was done, but I did feel like I was taken away from my students a lot last year going to the meetings. I know it's beneficial. I mean technically I wouldn't want to be pulled after school or any other time, but it did hinder us in that aspect. I feel like every time I have to leave my kids, I'm like no we are right in the middle of a unit.

Specialist Focus Group. Organization and scheduling also emerged as a theme in the results gleaned from the specialists' focus group. Time was coded six times in the responses provided by the specialists related to needs for future PD and least beneficial elements of the program. For the specialists, however, their responses were less about concerns that the teachers were spending too much time away from their classrooms, and more about the amount of time that they had to engage in the observation and feedback cycles which were an intended part of the program. When asked what suggestions they had for future PD, the specialists offered suggestions for restructuring the program which would maximize their ability to conduct classroom observations and coaching cycles with the teachers. One said:

> We should go back to every other month in person meeting with an observation cycle in between to focus on whatever was presented and give meaningful feedback in order to prepare to meet again based upon what we have been able to see or not see in the actual classrooms.

Another shared, "Doing an in person meeting every other month and focus on observations in between, it would have been more beneficial not only for us but for the participants as well."

Summary of Findings

Knowledge, Skills, and Efficacy Related to Co-Teaching and SDI

Findings gleaned from the extant survey data and the teacher and specialist focus groups indicated that while the pre post survey results did not show significant changes in teachers' perceptions of efficacy related to co-teaching following the CTPDP, their scores on the TSES (Tschannen-Moran & Woolfolk Hoy, 2001) along with their responses to the focus group questions indicate that the teachers feel knowledgeable in their understanding of the different co-teaching models and their appropriate use in co-taught classrooms. In particular, the teachers' responses indicated that they increased their use of the station-teaching and parallel teaching models following the program. Although the specialists' concurred that the teachers grew in their knowledge and understanding of how and when to use the different models, they indicated that they did not always see this knowledge and understanding playing out in the teachers' classroom practices. While the specialists' opportunities to conduct the observation and feedback cycles which were an intended component of the program were limited due to OCPS' response to COVID-19, the specialists reported that the times there were able to get into classrooms, they did not notice a change in the teachers' actions and often saw the special education teacher maintaining that subordinate, assistant type of role.

The teachers' and specialists' responses to the focus groups aligned in the belief that the intentionality of planning for and documenting SDI as a part of co-taught lesson plans increased as a result of the CTPDP. The teachers indicated that they use the different co-teaching models to deliver SDI in their classrooms, although their responses lacked depth and specificity of how they deliver instruction to meet the needs of their students. Only one teacher cited a specific methodology or strategy used to support students' individual needs. The specialists indicated that

they did not see examples of SDI during their classroom observations, and that the classroom practices often mirrored those of a traditional classroom with a single teacher. Along with a lack of specificity of responses related to academic strategies to provide SDI, there was no mention of SDI related to behavioral support or the other realms of SDI, which indicates that there continue to be opportunities for growth related to teachers' knowledge, skill, and efficacy in delivering specialized instruction for students with disabilities.

Although it was not an established a priori code, consistency emerged as a central concept in both the teachers' and the specialists' responses to the focus group. In particular, the responses from the teachers and specialists indicate that maintaining consistent co-teaching partners across multiple years of teaching provides for growth in knowledge, skills, and efficacy related to co-teaching and the provision of specialized instruction. Both the teachers and specialists believed that partners who had taught together for multiple years were more willing to try new things to meet their students' needs.

Program Feedback and Recommendations for Future PD

Collaboration and modeling were touted as the most beneficial elements of the CTPDP, however there was unanimous agreement between both the teachers and the specialists that had the observation, feedback, and reflection processes been better developed, then they would have had increased benefit for the program participants. Even with the acknowledgement that the reflection processes seemed under-developed, the teachers reported that the opportunities to reflect and plan with their co-teaching partners was one of the most impactful elements of the CTPDP.

The teachers and the specialists found that the opportunity for co-teaching pairs to collaborate with each other as well as to learn with partners from other schools was beneficial.

Although the specialists did maintain that some teaching pairs were less receptive to learning from other teaching pairs due to a belief that their experiences and student population were too dissimilar to be beneficial, the teachers' responses were overwhelmingly positive in regard to opportunities for collaboration with colleagues from other schools.

Modeling also emerged to be perceived as universally beneficial by the teachers and the specialists. The teachers were much more receptive to content when it was presented in a way which modeled the co-teaching strategies or SDI methodologies, rather than in a traditional presentation format. The specialists reported that in the future the PD sessions should work to incorporate more opportunities for modeling the different co-teaching strategies and specific SDI approaches, perhaps using videos of co-teaching pairs classrooms as a means of increasing those modeling and social learning opportunities.

The specialists and teachers had agreement on the most beneficial elements of the program, and they also concurred on areas for growth and focus for future PD. Qualitative data gleaned from the teacher and specialist focus groups led toward three themes for program next steps and improvement: having co-teaching pairs self-select to participate in the program in order to encourage connection and buy-in to the content; increasing the opportunities for observation, feedback, and reflection cycles; and re-organizing and structuring the program to maximize teachers' time in the classroom and the systematic application of the core program elements.

The specialists and teachers indicated that future iterations of the program should reevaluate the participant selection process and schedule to better reflect the needs and specific interests of the participants. Many of the teacher respondents indicated that they did not know how they had been selected to participate in the program, and that they felt that they already knew the content which was presented. These teachers expressed frustration that the PD sessions

were not differentiated to meet their individual needs and were presented in a way which they perceived to be untargeted and unresponsive to their prior knowledge and current needs. The specialists, in turn, perceived that there was a significant difference in the teachers' receptiveness based on "whether they wanted to be there." In general, the specialists found the middle school co-teaching pairs to be much more engaged in the PD sessions than their high school counterparts.

The teachers and specialists also agreed that future iterations of the program should have more systematic approach to increase the opportunities for classroom observations, feedback, and reflection cycles. The specialists felt that school closures related to Covid-19 prevented them from completing as many observations and feedback cycles as were intended as part of the program, and that this impacted the effectiveness of the program and teachers' carry through of the intended outcomes. The teachers were concerned with the amount of time that they had to be away from their classrooms to participate in the PD sessions, and although they indicated that they would not be interested in attending the sessions outside of their contractual day, they did express concerns that too much time away from their students may have had a negative impact on student achievement.

The specialists provided ideas for structural changes to the program which would support both the need for increased observation, feedback, and reflection cycles and the teachers' concerns with time away from classrooms. The specialists suggested that the program developers move forward with hosting in-person PD sessions every other month, with structured observation and feedback cycles in between the in-person sessions. This would allow the teachers to spend more time in their classrooms and provide the specialists with the knowledge and data they

would need to differentiate the monthly sessions for the teachers based upon what they observed in the classrooms and determined as needs for the participants.

Limitations That Emerged Related to Data Collection

This chapter provides the results of the study organized by evaluation question. Data for the study were collected between August 2019 and November 2020. The Covid-19 Pandemic had a significant impact on the program delivery and data collection to inform the program evaluation. The program was designed to include multiple observation and feedback cycles conducted by the specialists for each of the co-teaching pairs who participated in the program. OCPS was forced to close schools in March 2020 in response to Covid-19. As such, traditional co-teaching and classroom instruction was suspended, and the period of time which the specialists had to conduct observations and provide feedback to the teachers was extremely limited.

In addition, OCPS reopened schools for the 2020-2021 school year in a predominantly virtual manner. Teachers had to dramatically shift their instructional practices to deliver instruction through online learning platforms and were not able to implement the co-teaching strategies focused on in the program in a traditional manner. Although I reached out to the program participants on numerous occasions, only six teacher participants agreed to participate in the focus group.

CHAPTER 5

RECOMMENDATIONS

The purpose of this program evaluation was to investigate teachers' perceptions of their knowledge, skills, and efficacy in implementing the co-teaching models (Friend et al., 2010), specifically station teaching, parallel teaching, and alternative teaching, and SDI in their co-taught classrooms following a professional development program intended to target those skills. In addition, I explored which components of the program were perceived to be most and least beneficial by both the participants and the program developers and to gain insight on preferences and recommendations for future professional learning opportunities offered by OCPS. Although the program evaluation was implemented using a pragmatic, mixed methods design, most of the findings were obtained through analysis of qualitative data gleaned through focus groups with the teacher participants and the specialists who developed and delivered the program sessions.

Summary of Major Findings

Evaluation Question 1. After participating in a professional development program designed for co-teaching effectiveness, what are teachers' perceptions of their efficacy to implement the co-teaching models, specifically the station teaching, parallel teaching, and alternative teaching models?

Co-teaching pairs expressed general knowledge and comfort with the co-teaching models and their use in their classrooms through their responses to both the TSES (Tschannen-Moran & Woolfolk Hoy, 2001) and their responses to the questions submitted to them in the focus group.

The teachers reported that the program had helped them grow in their intentionality, and most focus group participants reported that the program had prompted them to change their classroom practices.

However, there was no statistically significant difference in their efficacy determined for Pre-Secondary Co-Teaching PLC Survey (M= 147.93, SD= 16.34) and Post-Secondary Co-Teaching PLC Survey (M=150.57, SD=17.74) conditions; $t(29)$=-0.779, p = 0.442, which could indicate that the program did not have a major influence on teachers' perceptions. In addition, while the teachers provided responses to indicate that they felt comfortable in using the different co-teaching models in their classrooms, their responses were not specific and in depth to indicate the ways in which they were used or the extent to which they were used. The specialists reported that the different co-teaching models were not systematically observed when they were able to visit the participants' classrooms, and that they often saw teachers reverting to traditional instructional delivery models with the special education teachers taking on a subordinate role in the classroom.

The teachers' responses to the TSES (Tschannen-Moran & Woolfolk Hoy, 2001) indicated their general confidence and efficacy, as related to using the co-teaching models and supporting students in their classrooms; however, there were specific responses which indicated targeted opportunities for growth. The teachers' responses to questions directly related to classroom management and supporting students with challenging behaviors and low engagement were much lower. This aligns with the qualitative data provided by the specialists in their responses to the focus group questions.

Although the specialists' opportunities to conduct observation and feedback cycles were abbreviated due to OCPS' response to COVID-19, the specialists did have some limited

opportunities to observe the teachers carrying out the program learning in their classrooms. The specialists related that although they believed the teachers had grown in their knowledge of how and when to use station teaching, parallel teaching, and alternative teaching to effectively support classroom instruction, there was reluctance to do so in classrooms with more challenging students. The specialists indicated that the greatest changes in the teachers' behaviors had been related to lesson planning, but unfortunately it did not always carry over to application in the classroom.

Evaluation Question 2. After participating in the professional development program, how do teachers perceive their co-teaching classroom practices changed in delivering specialized instruction? What changes in teachers' classroom practice were perceived by the specialists who provided the training?

After participating in the CTPDP, the teachers' responses and the specialists' input indicated that teachers were more aware of the requirement to embed planning for SDI in their lesson plans and were intentional in their efforts to match their instruction to the needs outlined in students' IEPs. The teachers felt that they had grown in their ability to provide SDI to students in the inclusive environment, rather than by pulling them out to a separate environment, as a result of the program. The teachers were aligned in their reports that their participation in the program positively impacted their practices related to documentation of SDI in their plans. However, as with the questions related to the use of the co-teaching models, the teachers did not provide specific examples of times and ways that they delivered SDI to students, and there were no mentions of specific types of SDI outside of one reference to multi-sensory reading instruction.

The specialists concurred that the teachers had grown in their ability to document their plans for delivering SDI in lesson plans and in classroom notes. However, the specialists were not able to speak to examples of observing the delivery of SDI for students with disabilities during their classroom observations. When the teachers attempted to provide examples of the specialized instruction they'd provided, the examples were accommodations to increase access to the general curriculum, not necessarily disability related SDI.

Even though there were opportunities for growth with specificity and application, the specialists and teachers agreed that increased knowledge and awareness of SDI was a major positive outcome of the program. The specialists' responses indicated their excitement for the teachers' growth in these areas—their responses included phrases such as "huge growth!" and "SDI was a huge plus!"

Moving forward, the findings indicate that OCPS should focus on moving from theory into practice related to SDI. Both the teachers and the specialists indicated that it would be beneficial for OCPS to provide additional PD dedicated to specific strategies and methodologies to support students' academic and behavioral needs.

Evaluation Question 3. Which elements of a professional development program designed for co-teaching effectiveness do the teachers and specialists find to be most beneficial, and which least beneficial?

Collaboration emerged as the clear winner for the most beneficial element of the CTPDP. Both the teachers and the specialists felt that the teachers' opportunities to work together in a structured time with their co-teaching partners, and to collaborate in a focused manner with co-teaching pairs from other schools was extremely beneficial. The teachers indicated that while common planning time is intended to be a part of their daily schedule, other commitments often

interfered with their ability to work, uninterrupted, with their teaching partners. The teachers felt that participating in the program with their partners provided them the opportunity to immediately plan for the application of the program content into their classrooms. Additionally, the ability to see and hear how other co-teaching partners from other schools used the models and approaches in their classrooms was reported as helpful.

Modeling emerged as another program element which both the specialists and teachers agreed was beneficial to the teachers' professional growth and practice. The teachers' responses demonstrated excitement as they recounted the times that the program had used structures which modeled the different co-teaching methods and their belief that seeing the structures modeled by the program developers allowed them to better understand how to implement them in their own classrooms and make them work best for their students. The specialists agreed that modeling emerged as a core element of the program which provided the most benefit to the participants. The specialists' statements supported moving forward with the program providing more examples of explicit modeling of expectations and incorporating increased opportunities for the participants to observe others in their classrooms demonstrating the co-teaching models or providing SDI through the use of video recording.

The specialists and teachers were also in agreement regarding the components of the program which they found least beneficial. Although the teachers found the embedded reflection and feedback cycles which were part of the program beneficial, they felt that they were often inadequately planned and not implemented in a thoughtful and systematic way. The specialists were in agreement with this finding and acknowledged this as a significant opportunity for growth in future programming.

Additionally, many of the teachers felt that the PD was not differentiated appropriately to meet their needs, and that the program developers did not individualize or change their approaches based on the teachers' specific experiences, needs, and preferences. This was especially problematic, given that individualization and differentiation of approaches to meet students' needs is a core component of co-teaching, and should have been exemplified by the program developers.

Evaluation Question 4. What suggestions do the teachers and specialists have for improving a professional development program designed for co-teaching effectiveness?

The teachers' and specialists' responses to questions about their needs and preferences for future professional development centered around three main concepts: self-selecting to be a part of the program to increase the participants' buy-in and commitment to the learning; increasing the strength of the observation, feedback, and reflection cycles as core components of the program; and attending to the organization and scheduling of the program to better meet the participants' needs.

Focus group responses indicated that participant buy-in is a key component to the success of any PD program, and the lack of participants self-selecting to be part of the program was a detriment to the CTPDP. Many of the teachers who participated in the program indicated that they did not know how they had been selected to be a part of the program, and that they believed that there were other teachers who may have benefited more from the CTPDP. The specialists concurred that there were marked differences in the engagement of different co-teaching pairs, and that those teachers who "truly wanted to participate" benefited much more from the program than those who did not.

Additionally, the teachers and specialists believe future program iterations should be developed in a way which provides for more structured observation, reflection, and feedback cycles. The teachers found benefit in the opportunities for reflection and feedback but indicated that the approaches the program offered sometimes felt ill-planned and haphazard. The specialists thought that if they had had more opportunities to get into the teachers' classrooms and provide targeted observations and feedback, then the teachers would have been more successful in their application of the co-teaching models and implementation of SDI. As a suggestion, the specialists indicated that they believed that hosting PD sessions on alternating months and providing opportunities for observation and feedback in the intervening months, would benefit the program and its impact on teachers' professional practice in their classrooms. The teachers' concerns with the time commitment of the program and the fear that the time away from the students in their classrooms may have had a negative impact on student achievement aligned with the specialists' suggestion for hosting the PD sessions on alternating months.

Discussion of Findings

Teachers' Knowledge, Skill, and Efficacy Related to Co-Teaching and SDI

Findings from the program evaluation indicate that while the participants who engaged in the CTPDP professed general knowledge and skill with the different co-teaching models and increased awareness of SDI and the need to systematically plan for and deliver specialized instruction to support students with disabilities, there were ample opportunities for improvement within the program.

The teachers, through their responses to the TSES (Tschannen-Moran & Woolfolk Hoy, 2001) and the focus group sessions indicated that they use the co-teaching models in their classrooms, and that they feel efficacious in meeting the needs of their students in those classes.

In particular, the teachers referenced the use of the station-teaching model, parallel teaching model, and alternative teaching model, and they indicated that they have adapted their use of these models to be included in the virtual format they have had to employ since OCPS shifted to predominantly virtual instruction due to COVID-19. However, the teachers' responses were not specific, and did not provide examples of targeted ways that they implemented the models or provided specialized instruction. Additionally, their lower responses related to efficacy in classroom management and effectively teaching students with challenging behaviors and low engagement are contradictory to their professed efficacy and skill in co-teaching and SDI.

Although opportunities for classroom observation and feedback cycles were limited due to OCPS' closure in March 2020, the specialists did have some limited opportunities to observe classes following the CTPDP sessions. The specialists, through their responses to the focus group session, indicated that while they saw the co-teaching pairs include the co-teaching models in their lesson plans, they often did not observe the models being employed in the classrooms. The specialists were more likely to see the teachers engaged in one-teach, one-observe model of co-teaching or in classic team-teaching scenarios during their classroom observations.

Based on the results of the survey and the focus group feedback, I believe that the CTPDP achieved the goal of supporting teachers' baseline knowledge and skill related to using the station-teaching, parallel-teaching, and alternative-teaching models, but that without structured opportunities for observation and feedback, along with reflection and goal-setting on the part of the teachers, the co-teachers often reverted to the easier, whole-group models of instructional delivery.

Along with understanding the co-teachers' knowledge and skill in using the co-teaching models, the program evaluation sought to understand the teachers' perceptions of their

knowledge and skill in providing specialized instruction following the CTPDP. While the teachers referenced their increased awareness and attention to the need to provide specialized instruction for students with disabilities along with the instruction toward the general curriculum and grade level standards, their lack of specificity leads me to believe that there is additional work to be done in building the teachers' repertoire of skills and strategies for supporting students' individual academic and behavioral needs. The teachers and specialists agreed that the participants in the CTPDP had become more intentional in planning and documenting SDI, but the teachers did not reference any specific applications of SDI in their responses, other than one mention of multi-sensory reading instruction. There were no references of SDI related to behavioral support, which is interesting given that managing challenging behaviors and addressing the needs of students with low academic engagement emerged as targeted areas in the TSES (Tschannen-Moran & Hoy, 2001) responses. Although the CTPDP might have achieved its goals of increasing teachers' awareness of the need for SDI and embedding planning for SDI as an integral part of lesson preparation, much work can be done to increase the teachers' resources related to curriculum and practices that are instructionally matched to meet students' needs.

Feedback Regarding the Program Elements of the CTPDP

Along with seeking to understand teachers' perceptions of their knowledge, skills, and efficacy related to the different co-teaching models and the implementation of SDI following the CTPDP, I also sought to understand which elements of the program were most and least beneficial for the participants and what recommendations the participants and the specialists had for future professional development opportunities. The specialists and the teacher participants agreed that collaboration between the co-teaching partners as well as with teachers in similar

situations in other schools was one of the most beneficial components of the program. In addition, the teachers and specialists indicated that using the CTPDP sessions to provide modeling of the different models of co-teaching and how they could be used in the teachers' classrooms was beneficial.

Although collaboration and modeling were positives of the program, there were core elements of the program which should be improved, and which would need to be addressed for future PD opportunities. One of the most telling components of the feedback from both the teachers and the specialists was the need to create and provide programming in which the participants felt connected and had personal buy-in for the content being provided. In the case of CTPDP, most of the participants were selected to participate by their school-based administrators.

Many of the teachers who responded to the focus group indicated that they did not know why they had been selected to participate, and they felt that other teachers in their schools may have benefited more from participation than they did. The specialists agreed that the different levels of buy-in demonstrated by specific teacher groups was problematic, and that there were apparent differences in the engagement and carry through across the participants. The lack of teachers self-selecting to be part of the program and internalizing reasons for their participation led to feelings of frustration. In fact, one of the teacher participants indicated that she quit the program midway through because she felt that she already knew all of the information which was being covered by the specialists.

Along with the lack of self-selecting to be part of the program, there appeared to be common concern about the time commitment and timing of the CTPDP sessions. The sessions were scheduled for a half-day monthly during the period between September 2019 and

December 2019. The teachers indicated that they believed the frequency of the sessions and time that was taken away from their time in the classrooms to be problematic. However, the teachers in the focus group indicated that they could not suggest a solution to the time concern. The teachers indicated that they would be unwilling to come in for professional learning sessions either before or after work. The specialists, on the other hand, did offer one potential solution. The specialists suggested that alternating months of in-person professional learning sessions with months of observation and feedback cycles would be both beneficial from a professional learning standpoint and from a time in the classroom perspective for the teachers.

Both the teachers and the specialists indicated that they believed that observation, reflection, and feedback were important elements of the program, but that these elements had not been completely developed in the program and were not implemented thoroughly with appropriate planning and structure. The teachers indicated that they found the reflection structures disjointed and that they sometimes appeared to be an afterthought. The specialists' input, along with the lack of specificity in the teachers' responses, suggests that more work should be done in the observation and feedback cycles related to the co-teaching models and SDI. Future iterations of the CTPDP should be structured in a way which provides embedded opportunities for these observation and feedback cycles, along with more structured opportunities for guided self-reflection and planning on the part of the teachers.

It is important to note that the content specialists and the special education specialists who developed and delivered the CTPDP are experts in the areas of math, English, and special education. Many of these individuals indicated in the specialist focus group that they had not received specialized training in the area of leading professional development for adult learners and professionals.

Implications for Policy and Practice

The results of this program evaluation can inform OCPS for future iterations of the CTPDP, as well as for other in-service professional learning opportunities offered by OCPS. In addition, the results lend themselves to practice implications for teacher preparation programs, particularly in relation to preparing teachers for co-teaching and providing specialized instruction for students with disabilities in inclusive environments. Table 10 provides the findings and recommendations from the program evaluation.

Table 10

Findings and Recommendations

Finding	Related Recommendation	Supporting Literature
Teachers' knowledge and understanding of co-teaching models and SDI have not translated to consistent classroom practice.	Future iterations of the program should focus on transfer of knowledge to application and specific methodologies of SDI to meet student need.	Bates & Morgan, 2018; Chong & Kong, 2012; Desimone et al., 2002; Friend, 2019; Nguyen, 2012; Pancsofar & Petroff, 2013; Rodgers & Weiss, 2019; Ruddy & Prusinski, 2012; Samuels, 2015
Collaboration and modeling were identified as the most beneficial program elements. Opportunities exist to strengthen observation, reflection and feedback cycles.	Structure the program to maximize the benefits of collaboration and modeling, while building targeted opportunities for observation, feedback, and reflection cycles.	Bates & Morgan, 2018; Brown & Militello, 2016; Owen, 2015; Rimpola, 2014; Ruddy & Prusinski, 2012; Schachter & Gerde, 2019
Participant buy-in and time commitment were brought forward as considerations for future professional learning needs.	Future participants should self-select to participate, and the program should be structured to maximize time.	Brown & Mitello, 2018; Chong & Kong, 2012; Desimone et al., 2002; Fagan et al., 2017

These recommendations call for changes to structure and methods used by the program. By making targeted changes to the structure and methodologies of the program based on the feedback from the participants and the program developers, future iterations of the program will be better equipped to build teachers' knowledge, skill, and efficacy related to co-teaching and SDI and drive progress toward OCPS' long-term goal of increasing achievement for students with disabilities.

Structural and Methodological Changes

The findings from the research have led me to determine that the CTPDP should be continued in OCPS, but that there should be strategic changes to the program's structures and methodologies based on the data gleaned from this program evaluation. OCPS should focus on building future programming which promotes transferring knowledge into practice, maximizing collaboration and modeling, increasing opportunities for observation, feedback, and reflection, and incorporates changes to participant selection and scheduling of the program. If the program is to have a positive impact on student achievement, then it must build a community of learners that fosters both the self-efficacy and the skill of the participants related to co-teaching and the delivery of SDI (Bandura, 1993; Friend, 2019; Hang & Rabren, 2009; Hattie & Yates, 2014).

Transfer of Knowledge to Application. Future iterations of the CTPDP must incorporate more opportunities for the teachers to learn and apply specific strategies and methods for supporting their diverse student populations. While the program evaluation indicated that teachers were aware of the need for SDI and more intentional in planning and incorporating SDI into their lesson plans and instructional delivery following the program, the findings from the focus group indicate that the teachers' practices continued to reflect those which are seen in many co-teaching classrooms in which there is a lack of SDI and an over-reliance on the one-teach one-assist method of co-teaching (Casserly & Padden, 2018; Friend, 2019; Rodgers & Weiss, 2019; Samuels, 2015).

OCPS has clear opportunities to grow the teachers' knowledge and skill related to specific strategies, programs, and methods for delivering specialized instruction. Teachers must incorporate high-yield, evidence-based strategies to promote academic growth for students with disabilities (Friend, 2019; Hang & Rabren, 2009; Nguyen, 2012). Since so many special

education teachers enter their careers without having completed licensed teacher preparation programs, it is important that OCPS identify, cultivate, and promote resources to build teachers' repertoires of tools for SDI along with continuing to build co-teachers' knowledge and skill in using the models of co-teaching to deliver SDI in an inclusive environment. OCPS should identify and build curriculum and program materials which address high frequency needs of students with disabilities which can be incorporated into co-taught classrooms alongside the grade level curriculum. Specific attention should be provided toward increasing teachers' knowledge and skill related to behavior management and supporting students who are disengaged, as these were areas of weakness shown in teachers' responses in the extant survey data. Future iterations of the CTPDP should focus on instructing teachers how to match strategies, methods, and resources to students' individual needs and then how to incorporate those resources into the co-taught classroom through the effective use of the co-teaching models.

Maximize Collaboration and Modeling While Increasing Opportunities for Observation, Feedback, and Reflection. Effective professional development provides the participants with systematic and cohesive opportunities to engage in learning that is targeted to their specific content areas and professional needs (Bates & Morgan, 2018; Brown & Militello, 2016; Owen, 2015; Rimpola, 2014; Ruddy & Prusinski, 2012; Schachter & Gerde, 2019). To impact professional practice and be a catalyst for sustainable change, the PD must be sustained over time and provide targeted opportunities for practice, feedback, and self-reflection (Bates & Morgan, 2018; Bond & Blevins, 2019; Brown & Militello, 2016; Miles & Guiney, 2000).

OCPS must build and extend upon the positive elements of the CTPDP to increase its effectiveness and its impact on teacher practice and student outcomes. Both the teacher participants and the specialists indicated that the opportunities to collaborate with their peers was

one of the most beneficial elements of the CTPDP. Future iterations of the program should continue to bring together co-teaching partners with pairs of teachers from other schools with similar demographics so that they can learn and grow together.

Additionally, the program should continue to structure any future PD sessions in ways which highlight modelling the co-teaching models and their appropriate uses in the classroom. Both the specialists and teachers felt that those sessions in which the different models of co-teaching were embedded as the instructional strategies for the session were beneficial and supported the teachers in understanding how to carry out those models successfully in their own classrooms.

To truly impact teacher practice, the program needs to incorporate a more structured approach to observation, feedback, and reflection cycles for the teachers. The program developers should shift their focus from the traditional 'sit and get' PD sessions to targeted coaching cycles with the co-teaching pairs who are part of the program. The specialists should use data collected through their classroom observations to drive the instruction and activities which are provided in the PD sessions. The specialists must move forward with presenting the program in a way which models the differentiation and data driven instructional approaches which are expected of our classroom teachers. The schedule changes which are suggested below would provide the specialists with more time and data with which to further develop and differentiate the PD sessions in the future.

Participant Selection and Scheduling. Future iterations of the program should seek participants who have self-selected to be a part of the PD. Teacher buy-in is a determining factor for the impact of professional development, regardless of its content or methodologies (Fagan et al., 2017). Many of the teachers indicated that they were told that they had to participate in the

program, and they felt that the program was covering information that they already knew and in which they did not need additional support. While it may be that the administrators selected the teachers to participate based on a need that they had perceived as part of their classroom observations and evaluation processes, it appeared that the teachers were unaware of why they had been chosen to participate in the program. This lack of awareness led to resentment and decreased buy in on the part of some participants.

Time commitment and program scheduling should also be addressed in future program development. While the teachers admitted that they would prefer to not have PD sessions before or after contractual hours, there was consistent concern that missing a half-day of instruction once per month created anxiety and impacted instructional delivery. The specialists also indicated that the monthly sessions could have been too frequent and limited their ability to consistently engage in observation and feedback cycles with the participants. I recommend that the program sessions be spread out over the course of the year, delivered on alternating months. During the period between sessions, the specialists should work with the participants to plan lessons which incorporate the goals of the program, and to then conduct structured observation and feedback cycles of the targeted lessons. The specialists should use the information that they gather through the observation and feedback cycles to inform each of the in-service PD sessions. In this way, the PD can be more targeted to the teachers' individual needs, and it can be tailored to address, reinforce, and redirect those areas of focus identified in the observation and feedback cycles.

Additional Recommendations

Local Practices. Although not directly related to the CTPDP, there were some findings which emerged from the feedback of the focus group participants which should be taken into

consideration by OCPS as they work toward increasing the effectiveness of co-taught classrooms and improving outcomes for students with disabilities.

Consistency in Co-Teaching Partners. Although not explicitly part of the CTPDP, two themes, consistency and administrative support, emerged which appeared to have a dramatic impact on teachers' knowledge, skill, and efficacy in co-teaching. Consistency in co-teaching partners emerged as a theme which promoted teachers' confidence and skill in co-teaching and the delivery of SDI. Each of the teachers in the focus group indicated that having a consistent co-teaching partner from year to year was beneficial for their classrooms and their own professional growth. By working with a consistent partner in a particular subject area over a period of years, teachers learn and grow together. They become more confident and are more willing to try new and different methodologies in their classrooms. OCPS should encourage those school-based administrators who are responsible for building schedules and assigning teachers to maintain consistent co-teaching partners from year to year to the greatest extent possible.

OCPS should also encourage administrators to grow in their capacity to understand the co-teaching models and their use, along with the understanding of how to effectively evaluate and provide feedback on the provision of SDI in co-taught classrooms. Both the teachers in the focus group and the specialists indicated that administrator support and guidance is integral to co-teaching success. OCPS cannot rely solely on the content and exceptional education specialists to provide the job-embedded professional guidance which teachers need in order to support their professional growth. If academic growth for students with disabilities continues to be a focus of improvement for OCPS, then OCPS must put significant effort into building school-based administrators' understanding and capacity to lead in co-teaching and specialized instruction.

Virtual Application. Although unexpected during the planning and development of the program evaluation, an additional theme which emerged out of the qualitative data involved the new circumstances in which the teachers have found themselves related to OCPS' response to the COVID-19 pandemic. District schools have operated virtually since the beginning of the 2020-2021 school year. Teachers have had to adapt their traditional classroom practices to deliver content through online platforms such as Microsoft Teams and Google Meet. All participating teachers reported using the co-teaching models, in particular station teaching, alternative teaching, and parallel teaching, in the virtual format.

- Right now, we are in the virtual world and we are building the plane as it flies. I think having the most knowledge of the different models and figuring out how to keep kids engaged is the best thing to do.
- I will pull kids to a different link, and I will teach the same topic but just deliver it in a different way so that they can understand it. Like parallel teaching.
- This is what we are doing now in the virtual world. We are teaching the same thing, but in the small group or station teaching way.
- We give the kids different time slots that they would move throughout our small group stations, so we've been able to try a couple different things even then we're virtual.

Each of the teacher participants indicated that they would be interested in learning more about implementing the co-teaching models virtually and growing their skill in delivering SDI while providing virtual instruction.

Along with the current need to support teachers in providing virtual instruction due to COVID-19, there is pending legislature which may make it mandatory for local education

agencies to provide virtual options for students for the foreseeable future. Senate Bill 1303 (2021), if passed by the General Assembly, would require all local school divisions to make either virtual or in-person learning opportunities available to any student, based on the preference and choice of the student's parent or guardian. Should this bill be signed into law, there will be tremendous training implications for local education agencies.

Training and Support for the Program Developers. The specialists who designed and delivered the programming for the CTPDP are experts in their respective fields, however they are not specialists in providing professional development opportunities for adult learners. OCPS should invest in PD opportunities for the content and special education specialists to build their knowledge and skill in designing and delivering effective professional development. OCPS should ensure that each of the individuals who are employed as specialists and who are required to design and deliver PD as a part of their job requirements is adequately equipped to support adult learners.

Policy Implications. While the main goal of this pragmatic program evaluation was to provide OCPS with insights into the short-term outcomes of the CTPDP and to inform considerations for future iterations of the program, the findings from the study are indicate that there may be considerations for actions beyond the scope of OCPS and other local education agencies.

Teacher Preparation Programs. The achievement of students with disabilities in inclusive environments is a national priority (Fontana, 2005; Magiera et al., 2005; Solis et al., 2012; Sweigert & Landrum, 2015; Vizenor & Matuska; 2018). As such, educators should not have to rely solely on in-service professional development programs to become adept in co-teaching and the delivery of SDI. Teacher preparation programs should provide increased

training for both general and special education teachers on best-practices in co-teaching and instructional methodology to meet students' needs. This recommendation is in alignment with the recent report of the Joint Legislative Audit and Review Commission (2020) to the Virginia General Assembly in response to a study of special education programming throughout the state. The study—completed in 2020 and reported to the Virginia General Assembly in December 2020—provided responses to comprehensive questions about the state of special education in the Commonwealth. However, one finding aligns specifically with priorities of OCPS and the findings of this program evaluation regarding teachers' preparedness and effectiveness in co-teaching and the provision of SDI: "Despite emphasis on inclusion, Virginia does not prepare general education teachers or administrators with necessary special education-related skills" (p. iii).

It is imperative that teachers emerge from education programs better equipped to meet the needs of the diverse learners they will encounter in their classrooms. Teacher preparation programs for both special education teachers and general education teachers should contain classes and practical experiences which prepare teachers for working effectively in co-taught classrooms. Teachers should also be prepared to use a variety of evidence-based strategies and methodologies to address students' individual academic and behavioral needs. Until teacher preparation programs equip their graduates with the knowledge and skills that are required to support diverse populations of students, including students with disabilities, the burden will continue to fall on local school districts. The over-reliance on in-service PD to provide teachers access to this necessary professional learning could unfortunately continue to slow student achievement and promote teachers' dissatisfaction with their jobs leading to higher levels of turnover in staffing and intensified teacher shortages.

Recommendations for Future Research

This program evaluation sought to gain insight into a select group of teachers' knowledge and skill related to co-teaching and the provision of SDI following the initial iteration of a professional development program targeted to addressing those skills. The evaluation also sought to determine the program elements which were deemed to be most and least beneficial by the participants and the program developers, and to gather feedback from those stakeholders regarding their needs and preferences for future professional development. This evaluation was limited in its design to very immediate outcomes of the CTPDP design. The evaluation was further limited due to the extenuating circumstances of OCPS' closure due to COVID-19, the resumption of instruction in a predominantly virtual format, and the less-than-ideal number of teacher participants who were willing who were willing to participate in the focus groups to provide feedback.

OCPS should consider future research to examine the other intended outcomes of the program. OCPS should continue to monitor the application of co-teaching models and the delivery of SDI in the classrooms of the teachers who participated in the program. As the program develops and goes through future iterations, it could be informative to gather comparative data regarding the application of the co-teaching models and delivery of SDI in classrooms of teachers who have participated in the program compared to those who have not.

Future research could also use structured classroom observations and data collection as a means to better understand the true impact of the program on teachers' classroom practices. Longitudinal data by co-teaching pair could provide researchers with clarity and demonstrate whether the teachers' perceptions of their knowledge, skill, and efficacy in co-teaching and SDI truly play out in their pedagogical practices.

A further vein of research related to this study would be to study teacher job satisfaction and retention rates for teachers who have participated in the program. OCPS may be able to compare that data alongside that of teachers who have not participated in the program. Teacher shortages pose tremendous problems for local education agencies, and the availability of quality in-service professional development has been linked to higher job satisfaction and teacher retention (Pancsofar & Petroff, 2013; Venables, 2019).

Of course, future research must also be conducted to determine the program's impact on the ultimate outcome of the CTPDP, which is increased achievement for students with disabilities in inclusive programs. OCPS might consider examining students' test scores, grades, and progress toward IEP goals in classes taught by teachers who have gone through the program. There are myriad extraneous variables which would need to be taken into consideration in this study, but the true value of the program lies in its outcomes for students. With those variables in mind, it would be important for OCPS to not solely rely on quantitative data such as test scores to determine the program's impact on student achievement. Any research in this vein should include qualitative components which seek to understand the students' perceptions of their teachers' knowledge and skill along with their perceptions of their own achievement and ability to learn in the classroom.

Table 11 shows a summary of the findings and related recommendations for future research as outlined in the previous section.

Table 11

Recommendations for Future Research

Recommendation	Recommendations for Future Research
Future iterations of the program should focus on transfer of knowledge to application and specific methodologies of SDI to meet student need.	Investigate intermediate and long-term program outcomes, specifically related to student achievement.
Structure the program to maximize the benefits of collaboration and modeling, while building targeted opportunities for observation, feedback, and reflection cycles.	Focus on classroom observations and data collection to investigate application of effective co-teaching practices and delivery of SDI using comparative studies.
Future participants should self-select to participate, and the program should be structured to maximize time.	Investigate job satisfaction and retention rates for participants in PD vs non-participants.

Note: SDI = Specially Designed Instruction, PD = Professional Development

Summary

Although the literature in the field is somewhat divided regarding the benefits of co-teaching and the effectiveness of co-teaching on student achievement, especially for students with disabilities (Carty & Farrell, 2018; Friend, 2019; Hang & Rabren, 2009; Hattie & Yates, 2014; Kloo & Zigmond, 2008; Magiera & Zigmond, 2005; Rimpola, 2014; Rodgers & Weiss, 2019; Scruggs et al., 2007), it is my recommendation that OCPS continue with this program and work to improve and expand upon the program in the future. The legal requirements for educating students with disabilities alongside their typically developing peers to the greatest extent possible, combined with the reality that many teachers enter the profession inadequately prepared to support diverse learners, places the impetus for teacher development on local school districts (Donohoo et al., 2018; Hattie & Yates, 2014).

The CTPDP was developed by OCPS to grow secondary teachers' knowledge, skills, and efficacy related to co-teaching and the delivery of specialized instruction. This program was developed to support OCPS' initiative to close achievement gaps between students with disabilities and their typically developing peers. Since 64% of students with disabilities in OCPS

are served in inclusive, co-taught classrooms, it is imperative upon OCPS to ensure that those teachers who are supporting those students are equipped with the knowledge and skills necessary to do so.

The findings of this program evaluation show that although the teachers who participated in the program perceive themselves to have sufficient knowledge and skill to implement the station teaching, parallel teaching, and alternative teaching models of co-teaching in their classroom effectively, there is still work that needs to be done to ensure that their knowledge is translating into practice in their classrooms since the specialists did not consistently see the practical application of those models implemented during their observations. Similarly, the teachers perceive that they have grown in their understanding of SDI and are more aware and intentional in planning to include SDI in their lessons, but still lack specific strategies and methodologies for supporting students' individual needs alongside the general curriculum content.

The results of this program evaluation will be useful to OCPS as they move forward in future iterations of the CTPDP. The findings from the focus groups provided valuable insights into those elements of the program which were perceived to be most beneficial. The program developers should take these insights and build future programming which maximizes the use of modeling and collaborative structures to support teachers' growth. Interestingly, the teachers and the specialists who participated in the program evaluation concurred on the areas for growth for the program as well. The program must evolve to one which uses observation, feedback, and reflection cycles to drive the professional development sessions.

While this program evaluation was limited in its scope and should not be generalized, it can provide OCPS with valuable information to inform other professional development

initiatives. The feedback from the teachers and specialists regarding the program elements will be tremendously valuable to District leaders as they move forward with creating in-service opportunities for teachers. The methods used in the program evaluation may also be employed by OCPS in evaluating other in-service PD options provided by the specialists.

It is my hope that this program evaluation will support OCPS in developing future iterations of the CTPDP and other programs which serve to increase teachers' efficacy and provide them with the resources they need to drive achievement for all students. I am hopeful that future studies will show that the teachers who participate in the CTPDP and other programs provided by OCPS feel efficacious in their ability to support all learners, including those with disabilities, in their classrooms, and that this efficacy leads to increased student achievement and greater post-secondary outcomes for our students.

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APPENDIX A

Agenda and Methodologies of PD Sessions

Content and Methodology of Professional Development Sessions	
Content	Methodologies
September • Elements of effective partnerships • Definition and purpose of co-teaching • 6 Models of Co-teaching	Collaborative learning structures • Jigsaw Reading • Four Corners • Team Sorting Activity
October • Increased knowledge, skill, and application of effective co-teaching practices--maximizing our resources • Increased knowledge, skill, and application of specially designed instruction • Increased efficacy in meeting the diverse needs of all learners • Increased student mastery of grade level content and closing of achievement gaps for SWD	Collaborative Learning Structures • Jigsaw Reading • Line Up Reflection and Observation Activities Modeling Station Teaching
November • Identify, learn, and implement an appropriate evidence based instructional strategy based on student need • Describe and participate in parallel teaching • Describe and participate in station teaching	Reflection Activities Modeling Parallel Teaching Modeling Station Teaching Planning and Application Time
December • Effective co-planning • Understand elements of Explicit Instruction as a means of supporting SDI in the co-taught classroom • Apply co-teaching and SDI strategies to content outlined on the pacing guide for after winter break	Reflection Activities Modeling Parallel Teaching Modeling Station Teaching Modeling Alternative Teaching Planning and Application Time

APPENDIX B

TEACHER SENSE OF EFFICACY SCALE

Thank you for your time and participation in completing this survey. The information that is being gathered will be used to inform a program evaluation of the secondary CTPDP that you participated in during the 2019-2020 school year. Please answer each question as it pertains to your perspectives and beliefs specifically related to co-teaching and supporting students in your co-taught classroom. Your responses will remain confidential.

Teacher Beliefs - TSES

This questionnaire is designed to help us gain a better understanding of the kinds of things that create challenges for teachers. Your answers are confidential.

Directions: Please indicate your opinion about each of the questions below by marking any one of the nine responses in the columns on the right side, ranging from (1) "None at all" to (9) "A Great Deal" as each represents a degree on the continuum.

Please respond to each of the questions by considering the combination of your *current* ability, resources, and opportunity to do each of the following in your present position.

	None at all		Very Little		Some Degree		Quite A Bit		A Great Deal
1. How much can you do to get through to the most difficult students?	O	O	O	O	O	O	O	®	O
2. How much can you do to help your students think critically?	O	O	O	O	O	O	O	®	O
3. How much can you do to control disruptive behavior in the classroom?	O	O	O	O	O	O	O	®	O
4. How much can you do to motivate students who show low interest in school work?	O	O	O	O	O	O	O	®	O
5. To what extent can you make your expectations clear about student behavior?	O	O	O	O	O	O	O	®	O
6. How much can you do to get students to believe they can do well in school work?	O	O	O	O	O	O	O	®	O
7. How well can you respond to difficult questions from your students?	O	O	O	O	O	O	O	®	O
8. How well can you establish routines to keep activities running smoothly?	O	O	O	O	O	O	O	®	O
9. How much can you do to help your students value learning?	O	O	O	O	O	O	O	®	O
10. How much can you gauge student comprehension of what you have taught?	O	O	O	O	O	O	O	®	O
11. To what extent can you craft good questions for your students?	O	O	O	O	O	O	O	®	O
12. How much can you do to foster student creativity?	O	O	O	O	O	O	O	®	O
13. How much can you do to get children to follow classroom rules?	O	O	O	O	O	O	O	®	O
14. How much can you do to improve the understanding of a student who is failing?	O	O	O	O	O	O	O	®	O
15. How much can you do to calm a student who is disruptive or noisy?	O	O	O	O	O	O	O	®	O
16. How well can you establish a classroom management system with each group of students?	O	O	O	O	O	O	O	®	O
17. How much can you do to adjust your lessons to the proper level for individual students?	O	O	O	O	O	O	O	®	O
18. How much can you use a variety of assessment strategies?	O	O	O	O	O	O	O	®	O
19. How well can you keep a few problem students form ruining an entire lesson?	O	O	O	O	O	O	O	®	O
20. To what extent can you provide an alternative explanation or example when students are confused?	O	O	O	O	O	O	O	®	O
21. How well can you respond to defiant students?	O	O	O	O	O	O	O	®	O
22. How much can you assist families in helping their children do well in school?	O	O	O	O	O	O	O	®	O
23. How well can you implement alternative strategies in your classroom?	O	O	O	O	O	O	O	®	O
24. How well can you provide appropriate challenges for very capable students?	O	O	O	O	O	O	O	®	O

APPENDIX C

TEACHER FOCUS GROUP PROTOCOL

Thank you for participating in today's focus group. This study is a program evaluation of the secondary Co-Teaching Professional Development Program that you participated in during the period between September 2019 and March 2020. I will be audio-recording our conversation, and the researcher will transcribe and analyze your responses as a part of the study. The responses to these questions will be used as part of a dissertation study conducted by Donice Davenport as well as for recommendations for continuing and improving the program. You will have the opportunity to review the results of the analysis of the focus group prior to the final submission of the program evaluation. Your responses will remain confidential, and you are free to leave the focus group at any time. The recording of the focus group and its transcription will be maintained by the researcher and will not be provided for broader distribution. Our conversation today should take no more than 90 minutes. I will ask you a set of questions, and I may ask for clarification or elaboration to your responses.

Please keep the following in mind as we progress. Since I am recording, it is important to take turns when speaking. Any use of names will be redacted in the transcript. Please speak openly and honestly. After we are done, please keep our conversations confidential.

Following the analysis of the responses, the researcher will send out a summary of findings. You will have an opportunity to provide feedback as to whether the summary is reflective of your input and to add any additional information or perspectives you may wish to share.

Questions:

1. Prior to participating in the program, how many years of co-teaching experience had you had?
2. What was your knowledge of co-teaching and specialized instruction prior to participating in the program?
3. Which co-teaching models do you use most frequently? Why?
   a. How skilled are you with using the station teaching model?
   b. How skilled are you with using the parallel teaching model?
   c. How skilled are you with using the alternative teaching model?
4. In what ways do you use the co-teaching models in your classroom to provide specialized instruction?
5. Do you think the co-teaching strategies that you are using are effective in educating the students with disabilities in your classroom? If yes, why are they effective? If no, why are they not effective?
6. Did you change any co-teaching approaches that you used in your classroom based on the learning from the professional development sessions?

7. Did you change any of the ways that you provided specialized instruction for your students following the program?
8. Has the co-teaching professional development experience contributed to your professional knowledge and skill? If so, how would you describe these contributions?

Now we are going to spend some time talking about the professional development program itself. The specialists who designed the program sought to include elements associated with effective professional development, such as modeling, collaborative work with your partner and teachers from other schools, reflection, and systematic approaches to make the PD sessions more meaningful. The researcher is seeking to understand which elements of the program were most beneficial to you and your professional practice.

9. What elements of the program were most beneficial to you and your partner? Consider modeling, feedback and self-reflection, collaboration with your partners, collaboration with teachers from other schools?
10. What elements of the program were least beneficial to you and your partner?
11. What suggestions do you have for improving the professional development program?
12. Do you have any other insights or information you would like the researcher to consider?

APPENDIX D

SPECIALIST FOCUS GROUP PROTOCOL

Thank you for participating in today's focus group. I am assisting with a program evaluation of the secondary co-teaching professional development program that you provided in during the 2019-2020 school year. I will be audio-recording our conversation, and the researcher will transcribe and evaluate your responses as a part of the study. The responses to this focus group will be used as part of a dissertation study conducted by Donice Davenport as well as for recommendations for the continuation and improvement of the program. Your responses will remain confidential, and you are free to leave the focus group at any time. The recording and transcription of the focus group will be maintained by the researcher and not provided for broader distribution. Our conversation today should take no more than 60 minutes. I will ask you a set of questions, and I may ask for clarification or elaboration to your responses.

Please keep the following in mind as we progress. Since I am recording, it is important to take turns when speaking. Any use of participant names or student names will be redacted in the transcription. Please speak openly and honestly and respect the viewpoints of the other members of the focus group. After we are done, please keep our conversations confidential.

Following the analysis of the information gathered through the focus group, the researcher will send out a summary of findings. You will have an opportunity to provide feedback as to whether the summary is reflective of your input and to add any additional information or perspectives you may wish to share.

Focus Group Questions:

1. Tell me about your experiences in building and delivering professional development for teachers?
2. In thinking about the Co-Teaching Professional Development Program, which of the elements of the professional development do you perceive to have been most beneficial to participants? Modeling, self-reflection, collaboration with their partners, collaboration with teachers from other schools?
3. Which elements of the program do you believe were least beneficial to the participants?
4. In what ways did the professional development effect the teachers' knowledge and efficacy related to co-teaching and using the models to provide specialized instruction?
5. In what ways did the professional development effect the teachers' work in their classrooms related to the co-teaching models?
6. In what ways did the professional development effect the teachers' work in their classrooms related to the provision of specially designed instruction?
7. Did you notice the teachers using the co-teaching models to provide specially designed instruction during the classroom observations and feedback cycles you completed following the professional development sessions?

8. What suggestions do you have for improving the professional development program?
9. Do you have any other insights or information you would like the researcher to consider?

APPENDIX E

PARTICIPANT INFORMED CONSENT FORM

I,_____ , agree to participate in a research study regarding your experiences with the secondary CTPDP. The purpose of this study is to inform stakeholders who make decisions about program implementation and to gain teachers' perspectives on the impact of the program on their knowledge, skills and efficacy for supporting students in a co-taught classroom.

As a participant, I understand that my participation in the study is purposeful and voluntary. Teachers and specialists who participated in the secondary CTPDP will have the opportunity to participate and provide information. Selected participants who meet set criteria will be selected randomly and invited to provide input through focus groups.

I understand that the interviewer has been trained in the research of human subjects, my responses will be confidential, and that my name will not be associated with any results of this study. I understand that the data will be collected using an audio recording device and then transcribed for analysis. Information from the audio recording and transcription will be safeguarded so my identity will never be disclosed. My true identity will not be associated with the research findings.

I understand that the focus groups will be conducted in a virtual environment. I also understand that there is no known risk or discomfort directly involved with this research and that I am free to withdraw my consent and discontinue participation at any time. I agree that should I choose to withdraw my consent and discontinue participation in the study that I will notify the researcher listed below, in writing. A decision not to participate in the study or to withdraw from the study will not affect my relationship with the researcher, William & Mary generally or the School of Education, specifically.

If I have any questions or problems that may arise as a result of my participation in the study, I understand that I should contact Donice Davenport, the researcher at (804) 357-8252 or djdavenport@email.wm.edu , Dr. Margaret Constantino at (757) 221-2323 or meconstantino@wm.edu, or Dr. Tom Ward, chair of EDIRC, at 757-221-2358 or EDIRC-L@wm.edu.

My signature below signifies that I am at least 18 years of age, that I have received a copy of this consent form, and that I consent to participate in this research study.

_____	_____
Signature of Participant	Date
_____	_____
Signature of Researcher	Date

THIS PROJECT WAS FOUND TO COMPLY WITH APPROPRIATE ETHICAL STANDARDS AND WAS EXEMPTED FROM THE NEED FOR FORMAL REVIEW BY

THE COLLEGE OF WILLIAM AND MARY PROTECTION OF HUMAN SUBJECTS COMMITTEE (Phone 757-221-3966) ON SEPTEMBER 9, 2020.

APPENDIX F

LETTER OF PERMISSION TO USE THE TEACHER SENSE OF EFFICACY SCALE

William & Mary
School of Education

MEGAN TSCHANNEN-MORAN,
PHD
PROFESSOR OF EDUCATIONAL LEADERSHIP

April 6, 2020

Donice,

You have my permission to use the Teacher Sense of Efficacy Scale (formerly called the Ohio State Teacher Sense of Efficacy Scale), which I developed with Anita Woolfolk Hoy, in your research.

You can find a copy of the measure and scoring directions on my web site at http://wmpeople.wm.edu/site/page/mxtsch .

Please use the following as the proper citation:

Tschannen-Moran, M & Hoy, A. W. (2001). Teacher efficacy: Capturing an elusive construct. *Teaching and Teacher Education, 17*, 783-805.

I will also attach directions you can follow to access my password protected web site, where you can find the supporting references for this measure as well as other articles I have written on this and related topics.

All the best,

Megan Tschannen-Moran
William & Mary School of Education

P.O. Box 8795 • Williamsburg, VA 23187-8795 • (757) 221-2187 • mxtsch@wm.edu

VITA

Donice J. Davenport

Education

William & Mary, Williamsburg, VA
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Texas A&M Corpus Christi, Corpus Christi, TX
Leadership and Supervision Certification Program
Post Graduate Certificate, 2007-2009

Old Dominion University, Norfolk, VA
Degree: Master of Science, Special Education
December 2005

William & Mary, Williamsburg, VA
Degree: Bachelor of Arts, Psychology
May 2000

Professional Experience

Director of Exceptional Education, Richmond, VA
September 2014-present

Educational Specialist, Fairfax, VA
August 2013-August 2014

Special Education Department Chair, Herndon, VA
June 2013-August 2013

Instructional Coach, Herndon, VA
November 2011 - June 2013

Special Education Teacher, Herndon, VA
August 2011 - November 2011

Lead Special Education Teacher, Woolwine, VA
August 2009 - June 2011

Special Education Teacher, Ingleside, TX
August 2006 - June 2009

Special Education Teacher, Richmond, VA
November 2002 - June 2006

Special Education Teacher, Lawsonville, NC
August 2001 - November 2002

Case Manager, Citizens Against Family Violence, Martinsville, VA
January 2001 - August 2001